

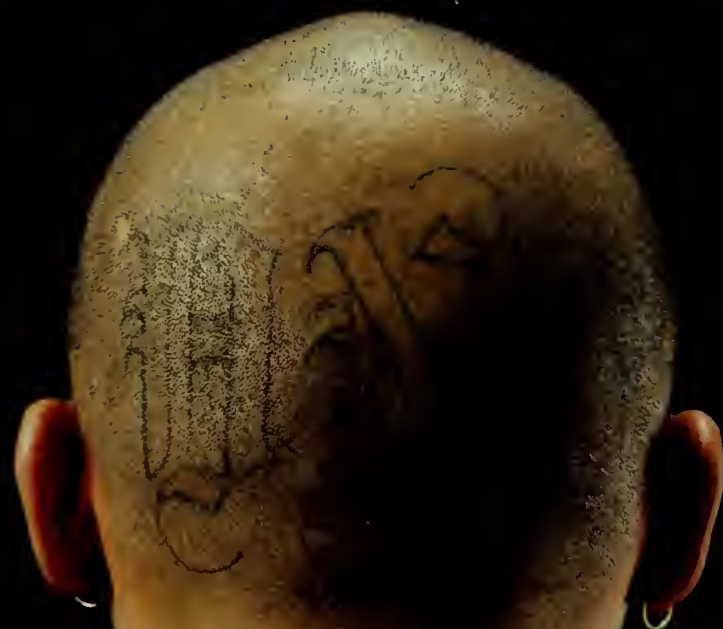
WINTER 2006

# Harvard Medical

ALUMNI BULLETIN

With light from a laser and the promise of a new start, a physician erases tattoos that link former gang members to a violent past.

## VANISHING ACTS





#### PIONEER

A member of the Class of 1868, Henry Pickering Bowditch (shown here circa 1880) established Harvard Medical School's Department of Physiology and set up an experimental medicine laboratory; each was the first of its kind in the United States. When appointed HMS dean in 1883, Bowditch became the first non-clinician to hold the post. In the late 1890s, he was a pivotal figure in moving the original HMS Quadrangle from idea to reality.



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COVER STORY: VANISHING ACTS

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Cover photograph: Wendy Jones Fletcher

## In This Issue



WHEN DAVID COPPERFIELD ASKS HIMSELF WHETHER HE WILL TURN OUT to be the hero of his own life, his creator, Charles Dickens, is, of course, making a kind of pun: Copperfield is wondering not only whether he will be the principal actor of his own story or just a secondary character, but also whether he will have the strength of character to be found heroic in any larger sense. This issue of the *Bulletin* carries stories of four HMS alumni whose strength of character tempts us to ask what it means to be the hero of one's own life.

Nine decades after the death of David Williams Cheever, Class of 1858, his story is in many ways the easiest to contemplate and the least complicated to assess. A Bostonian cut from Emersonian cloth, he was self-reliant, innovative, and committed to culture and the public good. Unable to take what was then the convenient road to a medical career in Boston—residency at Massachusetts General Hospital—he moved to an island in Boston Harbor to begin his work in the nineteenth-century equivalent of a homeless shelter. This was, perhaps, his moment of greatest heroism.

In writing their own stories, three living alumni also call Emerson to mind: “Heroism works in contradiction to the voice of mankind, and in contradiction, for a time, to the voice of the great and good. Heroism is an obedience to a secret impulse of an individual’s character...for every man must be supposed to see a little farther on his own proper path than anyone else.” The choices these physicians made led them into unexpected and terrifying circumstances: gang turf, a war zone, and prison. “Times of heroism are generally times of terror,” Emerson accurately observes, but then, “the day never shines in which [terror] may not work.” (All of Alfred Hitchcock’s movies can be said to proceed from that last clause.)

To continue with Emerson (who has been kind enough to spare me the full burden of writing this essay): “We have seen or heard of many extraordinary young men . . . theirs . . . the tone of a youthful giant, who is sent to work revolutions. But they enter an active profession, and the forming colossus shrinks to the common size of man.” One hope we can have for medical education is that it will preserve the possibility of heroism—but not cheap heroics—in the men and women who enter our active profession.

*William Ira Bennett*

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## BETTER WITH AGE

One of the perks of being elderly is that there are few deadlines (except doctors' appointments), which explains why I have just read the Summer 2005 issue of the *Bulletin*. But I am moved to say that the writing grows in worth. I have the good fortune to read other alumni magazines, and none matches the *Bulletin* in erudition.

The editorial on the chickenpox vaccine by Nicole Martin '06 intrigued me because I developed a case of herpes zoster while I was an intern at Children's Hospital. I recovered with liberal applications of calamine lotion and loving care.

Dean Joseph Martin's statement that patient care and research have trumped education over the years is a truth few medical deans would admit. Bully for him.

The Class of 1937 continues to dwindle. Just recently we lost Jim Heyl and Bob Brownlee. I found these losses especially grievous because we had all been in college together and thus I had known them for 77 years.

HENRY WORK '37  
BETHESDA, MARYLAND



there are those falling through the net of many programs designed to provide health care, perhaps we need better coordination or a new program for that 6 percent (or whatever the true number might be).

The last thing we need is another fiasco to match Medicare Part D! That program covers a huge number who neither need nor want it, is forcing many to sign up due to penalties, is outrageously complicated and, even though it is not fully under way, is already expected to be four to five times more expensive than originally projected. Just think what we would have with universal health coverage!

DONAVIN A. BAUMGARTNER, JR. '56  
NAPLES, FLORIDA

## Seeing Red

After reading the special report on the uninsured in the Autumn 2005 issue, I want to comment that with all the problems involving health insurance in the "richest country in the world," particularly in reference to costs, perhaps the most important thing to do to control such costs is to eliminate first-dollar coverage. Unless this is done, the program will spend its way out of existence or bankrupt the country.

RONALD O. GERMAIN '47  
CENTER HARBOR, NEW HAMPSHIRE

## Without a Care in the World

I'd been wondering whether anyone cared that my children and millions of others cannot afford medical or dental care. Establishing universal coverage is the only way to cope with the ever-spiraling costs of doctors, hospitals, dentists, and drugs. Thank you for the Autumn 2005 issue of the *Bulletin*.

ROWLAND B. FRENCH '43B  
EASTPORT, MAINE

## On the Money

The special report on the uninsured and underinsured in the Autumn 2005 issue of the *Bulletin* was most welcome. It will be critically helpful in moving the HMS family from hesitation and doubt past the tipping point to commitment to a universal, national solution, perhaps Medicare for All. Our next job, as important as providing medical care, is to influence the mindset of our colleagues, our patients, and our elected representatives.

The only addition I might make is the rueful observation that, as perhaps America's preeminent medical school and academic home to some of the outstanding advocates of health care for everyone, my alma mater should have and could have done more to lead the way on this issue. Mounting the best research and medical care is a hollow accomplishment if the

fruits of both are available only to a steadily shrinking percentage of the population.

JAMES BERNSTEIN '52  
ROCKVILLE CENTRE, NEW YORK

## More Money Than Sense

As a surgeon who practiced more than 35 years, never charged a "consultation fee," and performed many a cholecystectomy at a reduced or waived fee on patients such as "Gina," I was appalled at the biased and extremely one-sided articles touting "universal health coverage" (it used to be called socialized medicine) in the autumn issue of the *Bulletin*.

Quoting the oft-cited 45 million uninsured (which seems to go up a few million every six months without documentation), the special report gives no mention of the recent poll that showed only 6 percent of the public had unmet health care needs. If

*The Bulletin welcomes letters to the editor. Please send letters by mail (Harvard Medical Alumni Bulletin, 25 Shattuck Street, Boston, Massachusetts 02115); fax (617-384-8901); or email (bulletin@hms.harvard.edu). Letters may be edited for length or clarity.*

## A Funny Thing Happened on the Way to the Fornix

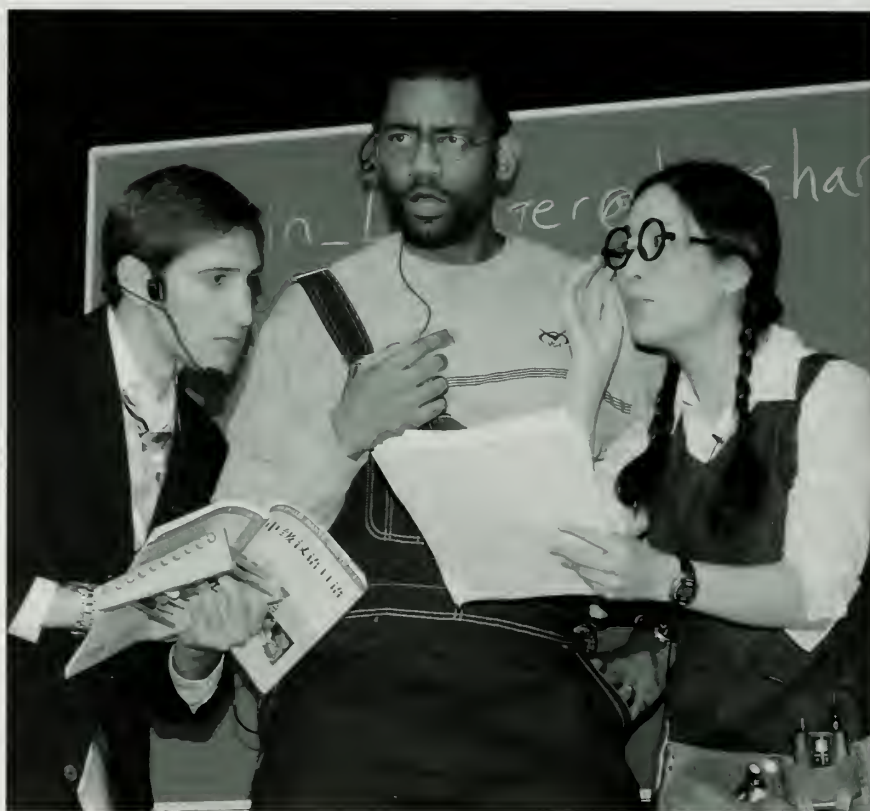
**I**F THE THREE HOURS OF SATIRE, salsa, and serenade in the 2006 Second Year Show contained a warning, it was to beware the mild-mannered immunologist; he could be brewing a revenge plot big enough to fill a musical.

"A Funny Thing Happened on the Way to the Fornix" blended the story of an immunologist, who literally steals the show by abducting its cast, with a spoof of the faculty, students, and culture of HMS set to the music and plot line of "West Side Story." Tying this story-within-a-story together were two large puppets, fashioned to represent faculty members Richard Schwartzstein '79 and Julian Seifter, who provided wry, running commentary reminiscent of the grouchy, heckling old men from television's "The Muppet Show."

The story begins with the class's frenzied preparations for the opening night of "Bedside Story." Unfortunately, the cast has disappeared. To find the missing players and ensure the show goes on, the beleaguered director enlists

HMS faculty members as stand-ins. This decision sets up comedic situations in which faculty serve variously as the musical's gang members—with anatomists wielding some fake switchblades as members of the Jets gang—and as its principals: Tony, Maria, and Officer Krupke.

In a tender knockoff of the fire-escape scene of the original Bernstein production, Tony and Maria share hopes for



**CASTAWAYS:** The producer, stage manager, and technical director of "Bedside Story"—played by Nicholas Zwang, Kervin Mack, and Sirena Hsieh—go off in search of missing medical students (above); as part of his scheme, the ruthless villain has created a slave robot (below left).

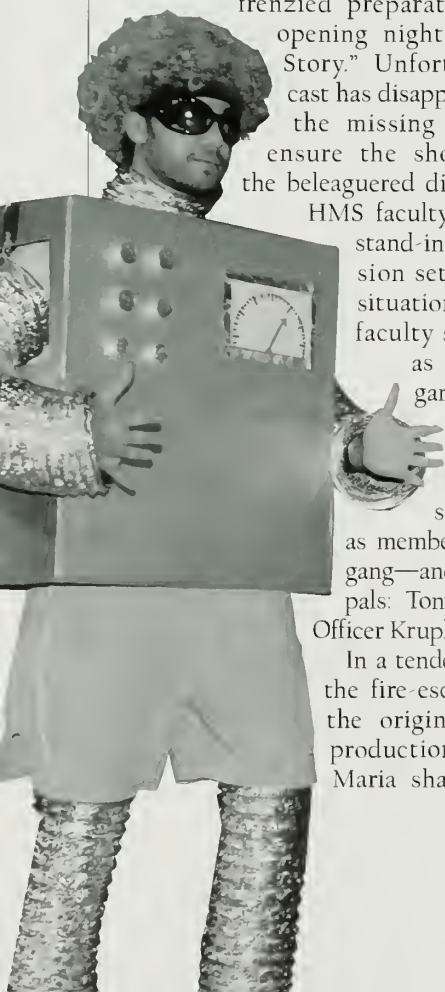
their futures, sung to the music of "Somewhere": "There's a school for us! / A medical school for us! / Hold my hand and it just might be / that we'll all get great residencies!"

With the faculty successfully herded to their marks, the show's business, stage, and technical managers set out in search of the missing cast. Clues ultimately lead them to the lair of the faculty-villain, Andrew Lichtman. Upset because he believes he is continually overlooked in Second Year Shows, Lichtman has kidnapped the cast, created a slave robot, and cloned himself into an army of monoclonal "Andy" bodies. The trio captures him and frees the cast after Lichtman is

driven to ground by the maddening sound of four-color pens being clicked feverishly by the stage crew.

Featuring tongue-in-cheek depictions of several faculty—including Nancy Oriol '79 and Paul Farmer '90, whose solo was titled "Do You Hear the Third World Sing?"—the cast and crew of the Second Year Show carried on the HMS tradition, now almost a century old, of having fun while spoofing their professors.

And, just in case any audience member took umbrage at the faculty portrayals, the ever-thoughtful cast and crew set up a "concerns" hotline. Simply call 1-800-learn-totake-a-joke-you-academic-divas. Second-years stand ready to take the call. ■





## Inside Information

**T**HE NEW LIBRARY AT THE Harvard Institute of Proteomics has a quirky name: BC1000. Its policies are somewhat unusual, too.

Open continuously, BC1000 allows visitors to borrow freely and often; imposes no prohibitions on food, beverages, or conversation; and does not assess late fees. In fact, withdrawals need not be returned, at least not in their original form.

Library mavens would actually prefer that patrons express themselves, hoping they bring back something a bit different from what was checked out. For although this library is available to all, it caters to a special group of tinkers and tweekers.

BC1000 is shorthand for Breast Cancer 1000, an online repository of more than 1,300 protein-expressing complementary DNAs from genes associated with the development of breast cancer. Complementary DNA, known as cDNA, is an important tool in molecular research, and library developers hope scientists will use those in the library in studies designed to unravel the biological function of proteins that control, or contribute to, breast carcinogenesis.

The library is part of the Breast Cancer 1000 Project, a research initiative led by Joan Brugge, chair of the HMS Department of Cell Biology, and Joshua LaBaer, director of the School's Harvard Institute of Proteomics.

Brugge and LaBaer also have succeeded in introducing proteins that were produced from a subset of the cDNAs into a system that mimics cells of the human breast. By watching the proteins in action in this model system, the investigators hope to tease out how the complex molecules might contribute to the development of breast cancer.

Over time, investigators with the Breast Cancer 1000 Project plan to develop and maintain a database of completed



**HEAR THIS:** Harvard medical student David Stark uses his iPod to review a human systems lecture.

PHOTO: MARC RAJIA

## Pod People

**GOOD THINGS COME IN SMALL PACKAGES, AND, SOMETIMES, IN ONLY ONE small package.** With an ear tuned to contemporary communication tastes, HMS is now producing mp3 recordings of class lectures for download to iPods, those sleek digital devices usually reserved for personal playlists.

Since December, in what is thought to be the first such effort by a medical school, HMS has offered digital takeouts of the School's curriculum. The mp3 audio lectures are stored on the School's eCommons intranet. Any HMS student, faculty, or staff person with password access to eCommons can subscribe to a class's podcast feed and download lectures from the intranet site. Subscribing is free.

The program seems to have struck a chord, says Jahn Halamka, an HMS associate professor of medicine at Beth Israel Deaconess Medical Center and the School's chief information officer. "Sixty-eight percent of students have iPods," says Halamka. "At HMS, we found that half of the students with iPods use the podcasting service."

With digital audio downloads of HMS lectures now available, can "HMS movies on-demand" be far behind? Probably not, says Halamka. "Videos on iPods would allow students to review procedures wherever and whenever they wanted. And there's an interest. Of those we heard from on our usage survey, 17 percent thought offering video would be a good addition. So, today audio, tomorrow video." ■

cDNAs and possibly include findings from scientists who have used cDNAs from BC1000 in their studies. This collaborative aspect began with the library. Its cDNA collection was built with the help of researchers in the field.

The first 200 are molecular stand-ins for genes suggested by Boston-area experts in breast cancer research. Fifty others are included because research shows the genes they mirror produce more proteins than normal in ductal carcinoma. The remainder were added after being picked out of a literature lineup by MedGene, a software tool that trolls published sources for genes and proteins associated with breast cancer develop-

ment. MedGene was developed by the Harvard Institute of Proteomics.

Complementary DNA is so named because its chemical components fit with or complement those of messenger RNA, the molecule from which it is synthesized. This manufactured version of DNA is single-stranded, has been trimmed to remove segments of code that do not express proteins, and is stable outside the cell, a boon to scientists who use in vivo systems to study how genes and proteins work.

To visit the library and browse its holdings, click on the "Current List of Genes" link at [www.hip.harvard.edu/research/breast\\_cancer/index.htm](http://www.hip.harvard.edu/research/breast_cancer/index.htm). ■

## Turning Your Wheels

**T**HE SOFT TICK AND HUM OF multispeed bicycles tickle the ears, blurs of color and form dash across the eyes, and reeling, rolling, sky-high perspectives of mountain and coast rollick the brain.

The big-as-all-outdoors IMAX film, *Wired to Win: Surviving the Tour de France*, is a sensory circus of the sounds and sights of the annual three-week, 2,200-mile crème de la crème of cycling races, the Tour de France. But it's also a tour of a different sort, one not commonly found in guidebooks. It's a tour of the human brain.

*Wired to Win* is about the brain and speed, pain, stamina, fatigue, and decision. Produced by Partners HealthCare Systems, it highlights the complex contributions of the brain to the performances of athletes in this grueling competition. Focusing on France's Jimmy Casper and a teammate and shot during the 2003 centennial race, the film combines the actual with the virtual to illustrate how a biker's performance is driven by a small, gelatinlike organ and its body-wide Western Union composed of chemicals, synapses, neurons, and spinal cord.

It explains, for example, how Casper would continue to participate—but only up to a point—after a fall that landed him in the hospital during an early stage of the race. Using an animated series that starts with the bike, floats a brain above it, and then “connects” the two by rendering the highways and byways of nerve pathways within a ghost of Casper's body, the film shows how the brain processes pain signals generated in battered and fatigued legs by following those signals from Casper's legs to his spinal cord and then to his brain's thalamus. The signals then move to the cross-cortical region known as the sensory strip where they are processed to reveal what part of Casper's body is sending warning signals of trouble and pain. Knowing the source of the pain, the

cortex becomes more involved, assessing the level of pain, comparing it to past pain, and weighing the losses or gains to his body as Casper decides to continue. It's a “mind over mind” situation that, for Casper, resolves with his decision to remove himself from the race.

With billions of neural connections that change slightly or even get pruned in response to each new experience, the brain is shown to be remarkably flexible and changeable as it responds to stimuli. This plasticity allows us to learn incrementally with each experience that challenges us. It is, according to the film, what motivates us to get up after we've fallen; we understand that next time, we'll know better how to avoid a similar spill.

The film's narrative and visual details draw their accuracy and vividness from the combined contributions of a team of

scientific advisors from Partners that worked closely with the filmmakers throughout the production. The team included Bruce Cohen, an HMS professor of psychiatry at McLean Hospital; Gary Gottlieb, an HMS professor of psychiatry and president of Brigham and Women's Hospital (BWH); Martin Samuels, an HMS professor of neurology and head of BWH's neurology department; Dennis Selkoe, HMS Vincent and Stella Coates Professor of Neurologic Diseases at BWH; and Matthew Frosch '87, an HMS assistant professor of pathology at Massachusetts General Hospital.

The film premiered at Boston's Museum of Science, where it will run through September 4, and is in national release. Information on the film as well as a Partners-generated glossary of brain- and memory-related terms can be found at [www.wiredtowinthemovie.com](http://www.wiredtowinthemovie.com). ■







## Dollars for Scholars

**M**EMBERS OF THE CLASS GRADUATING FROM HARVARD Medical School this spring face an average student debt of more than \$100,000. This indebtedness was a major focus of our most recent Alumni Council meeting. The good news is that HMS provides strong financial aid packages, recognizes the effect debt has on the lives of its students, and is considering steps to limit debt. The bad news is that the School must do much more.

*What are the facts?* The cost of attending HMS is now \$55,000 per year, of which tuition accounts for \$38,000. The estimated mean student debt for the Class of 2006 is \$105,000 for students unable to pay full tuition and living expenses. More than 80 percent of the students avail themselves of loans and scholarships. Briefly, the financial aid process involves assessing the student's needs, estimating his or her family's assets, and determining the family's contribution. The need that remains after the family contribution is met first with a unit loan, and

*What steps has HMS already taken?* Dean Joseph Martin has established a policy to reserve all unrestricted giving to the Harvard Medical Alumni Fund for student scholarships. Furthermore, despite a tight HMS budget, he approved lowering the unit loan from \$25,000 to \$24,500 for the class entering in 2006. This is the first unit loan reduction in nearly ten years.

*What more can be done to reduce student debt?* Dean Martin and the Alumni Council members support eliminating the need for a parental contribution for families with annual incomes of less than \$40,000. Such a move would require as little as \$70,000 in additional funds this year, with modest increases in future years. This amount would represent an estimated 10 percent increase in annual giving, a figure that should be within our reach. Reducing the unit loan level would be much more expensive; each \$5,000 decrease would require an annual income of \$1.5 million or new endowments of \$40 million.



Entering a medical career encumbered by large debt undermines many students' commitment to service by creating disincentives to choose underpaid specialties.

then by scholarship. The unit loan for the class that entered in 2005 is \$25,000 per year.

*Why is student debt a problem?* Entering a medical career encumbered by large debt undermines many students' commitment to service by creating disincentives to choose underpaid specialties, including primary care; to locate in underserved communities; and to pursue academic careers. This jeopardizes the spirit of medical professionalism and service that Harvard aspires to engender in its graduates.

*How does Harvard's financial assistance package compare?* Student debt at Harvard is less than at many private medical schools, but some institutions do much better. For example, the mean indebtedness per student at one school is almost \$30,000 less than at HMS.

*Why can't Harvard draw more scholarship funds from its endowment?* Use of the Harvard endowment is largely restricted to designated programs and endowed professorships; each school also gets a proportion of the unrestricted endowment each year. Appeals to the Harvard Corporation for one-time increases in this payout are rarely honored, and, if they are, then only for a single year. Increased support for scholarships would require perpetual disbursements, which have never occurred.

*Why should alumni care about student debt?* First, we would like all qualified students to be able to attend Harvard, regardless of financial status. Second, we want to encourage all HMS graduates to pursue the career tracks in which they could make the greatest impact, irrespective of financial constraints. Finally, Harvard is an important medical trendsetter, and we believe that improving the debt situation at HMS could reverberate nationally.

*What can alumni do?* We can continue to give vigorously to the alumni fund, knowing our contributions will ease the financial burden of current and future medical students. We can be attentive to donors who are not HMS graduates but who might be drawn to this cause. We can look to identify new funding sources. And we can continue to voice our concerns to the medical school leadership through Alumni Council members and class agents about the debt burden and to urge that all feasible steps be taken to reduce it. ■

Steven A. Schroeder '64 is a distinguished professor of health and health care in the Department of Medicine at the University of California at San Francisco, where he also directs the Smoking Cessation Leadership Center. He can be reached at [schroeder@medicine.ucsf.edu](mailto:schroeder@medicine.ucsf.edu).

## Divided Minds

*Twin Sisters and Their Journey Through Schizophrenia*, by Pamela Spiro Wagner and Carolyn S. Spiro '79 (St. Martin's Press, 2005)

**I** KNOW THE PERSON WHO CAUSED THE CHALLENGER space shuttle to self-destruct. She was 16 when it happened, and the punishment was commensurate with the harshness of her crime: years of psychiatric admissions, self-mutilation, suicidality, and government voices guaranteeing unspecified yet ultimate retribution. She never recovered from the sentence that psychosis imposed upon her.

Pamela Spiro Wagner, a writer and one-time medical student, killed President Kennedy. (Psychiatric records across the country show she may not have been the only one.) She was in the sixth grade at the time, a precocious and extroverted student with a less gifted twin sister. After she killed the president, she began to hear voices and see visions. She was unusually young to be experiencing psychosis, and visual hallucinations are also uncommon at her age. She went on to years of hospitalizations and a diagnosis of schizophrenia. Her identical twin, Carolyn Spiro '79, went on to Harvard Medical School and became a psychiatrist. Together they wrote *Divided Minds: Twin Sisters and Their Journey Through Schizophrenia*.

From the beginning, the twins shared more than an umbilical connection: episodes of anorexia, for example, and what seems to be a generally poor view of psychiatry. Their experiences diverged horribly, of course, when it came to sanity, but each suffered.

It is the sicker sister who expresses herself most dramatically. "Do they think I'm going to slit my throat with a sharpened sock?" she asks herself, as EMTs close in on her before a hospitalization. Those of us in the business have experienced restraints from a standing position, but she describes the chaos from a gurney, where every remark contradicts factual experience: "men in surgical scrubs [grabbed] me while the nurses, still telling me no one was going to hurt me, [held] me down..."

Dozens of delusions shift through Pamela's mind—the Five People "who monitor my movements wherever I go" and "once secretly irradiated me in the nuclear physics lab," the never fully explained but increasingly ominous Gray Crinkled Paper, the "NSA, DIA, or Interpol surveillance I've detected in my walls." Eventually, "everything, no matter how trivial or irrelevant, is an alias for something much more sinister and important." And though, astoundingly, Pamela makes it through Brown University and even the start of medical school, at times she could "barely think past [her] terror."

The return of some kind of equilibrium, in 2003, left her able to contemplate the impact of her life on her twin. "I

never understood quite so viscerally," she writes sadly in the epilogue, "how difficult it is to be the helpless sister of someone who is psychotic."

This situation—a single egg, two opposite destinies—is so full of irony it should be mythic. We learn a lot about one destiny, though strangely little about the other. Carolyn writes of her failed marriage, her difficult romantic relationships, her passion for dance, and the pain of following her sister's inpatient hospital career. But she does not write much about becoming a psychiatrist as her twin is becoming a patient. We want to know about her personal ironies, about her own schizophrenic patients and their treatments, and her experiences from the training side of the chair.

Along Pamela's way, there is also the usual unfortunate cast of malignant, ill-tempered, and tone-deaf mental health professionals: the psychiatrist with a "voice dripping with false kindness"; the doctor who roughly pushes her; the nurses who mock and abuse her; the physician who woos her seductively; the doctor who saves and then abandons her. Psychiatry is in a sad state here.

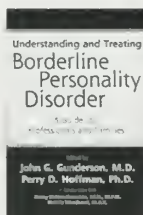
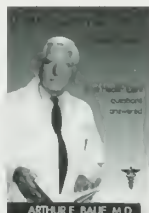
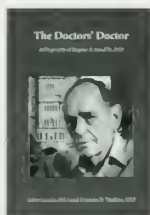
In the end, it is pleasing to report, Pamela Spiro Wagner is writing and publishing poetry and essays—freed, for now, from the sentence psychosis imposed upon her. Carolyn Spiro is in private practice. They live near each other, and their ongoing intimacy is clear. Let readers be told this, no matter what else they may wish to know. ■

Elissa Ely '88 is a psychiatrist at the Massachusetts Mental Health Center.



**A GREAT DIVIDE:** Pamela Spiro Wagner and Carolyn Spiro are identical twins with diverging paths in the world of psychiatry.





## The Denial of Aging

*Perpetual Youth, Eternal Life, and Other Dangerous Fantasies*, by Muril R. Gillick '78 (Harvard University Press, 2006)

Gillick argues against making desperate attempts to thwart the inevitable: old age. Instead, she guides readers to age gracefully by focusing on quality of life, not life prolonged at any cost. She provides examples of elders whose ability to enjoy life declined with each increasingly drastic medical treatment. The book takes a scientific, philosophical, and compassionate look at how to make appropriate health care choices and to find meaning in life after retirement.

## The Doctors' Doctor

*A Biography of Eugene A. Stead Jr., MD*, by John Laszlo '55 and Francis A. Neelon '62 (Carolina Academic Press, 2006)

Eugene Stead, known for adding the physician assistant to the medical profession, also transformed Duke University's medical center, where he served as chair of medicine from 1947 to 1967, into a top-notch institution. This biography explores how his tutelage produced more heads of departments of medicine than that of any other medical educator of the mid-twentieth century.

## Doctor, Can I Ask You a Question?

*Your Health Care Questions Answered*, by Arthur E. Baue '54 (Xlibris, 2005)

Baue, a surgeon and former vice president at the medical center at Saint

Louis University, synthesizes 40 years of practical medical wisdom in this volume. He answers questions patients frequently ask, defines medical terms patients find mysterious, and provides tips for choosing doctors and hospitals.

## Understanding and Treating Borderline Personality Disorder

*A Guide for Professionals and Families*, edited by John G. Gunderson '67 and Perry D. Hoffman (American Psychiatric Publishing, 2005)

Once a dreaded diagnosis haunting the margins of the mental health field, borderline personality disorder has gained greater respect in recent decades, the authors say. This book updates physicians, families, and sufferers on the latest research and treatments, from cognitive-behavioral to pharmacological interventions. Summaries and glossaries help those just learning about the disorder.

## More Than Ramps

*A Guide to Improving Health Care Quality and Access for People with Disabilities*, by Lisa I. Iezzoni '84 and Bonnie L. O'Day (Oxford University Press, 2006)

When it comes to health care, too often disabled persons literally cannot get in the door. The authors provide anecdotes that demonstrate common challenges, such as a deaf woman who misses her doctor's appointment because no one thinks to approach her rather than call her name. Suggestions for improvement

of services range from community planning to adjustable exam tables to more considerate communication between physicians and patients.

## Uninsured in America

*Life & Death in the Land of Opportunity*, by Susan Starr Sered and Rushika Fernandopulle '93 (University of California Press, 2005)

In researching this book, the authors interviewed uninsured people around the country whose stories demonstrate how frighteningly swift the descent from healthy to ill can be and how the financial implications of that descent are tied to employment. The writers devote specific chapters to the connections between poor health and divorce, race, self-employment, and caregiving.

## Complementary and Alternative Therapies for Epilepsy

edited by Orrin Devinsky '81, Steven Schachter '00, and Steven Pacia (Demos Medical Publishing, 2005)

The editors examine alternative medicine methods to treat epilepsy, such as massage, hypnosis, acupuncture, hormonal therapies, and nutritional changes. They also consider the high-fat, low-carb ketogenic diet developed in the 1920s, which can decrease seizure frequency, particularly in children with myoclonic seizures. The editors offer commentary on each approach and address the need for better trials in alternative medicine.



## Pieces of the Puzzle

**T**HE CITIES OF BAOTOU IN INNER MONGOLIA AND TYLER in East Texas may not seem to have any ties that bind them. Yet there is at least one: Kai Xia '99. She has called each home.

Xia, who grew up in China, started her career in medicine after high school, when she took a one-year nursing program and began serving the farming families in the rural areas around her home. It was a time that affected her deeply, she says. "I learned how to live my life. I learned it was important to me to alleviate people's suffering, to make a difference in people's lives." This is, according to Xia, the only way to be happy.

Bob Walters would say that Xia must be very happy these days. And Walters, a 27-year-old Texan who was reared in Troup, Texas, teaches agricultural science at a junior college, and now lives about a half hour east of Tyler, would know. Xia has made a big difference in his life: She saved it.

### Just the Facts, Ma'am

The two met on an October morning. Their first impressions of one another speak of contrast and mutual respect.

Xia, says Walters, is a small woman with a large sense of conviction and purpose.

"When he walked in," says Xia, "I was stunned by his look. I had never seen such a face. It was a gray, almost greenish, brown—very unhealthy looking. I remember thinking he must have something very unusual."

Xia began to talk with Walters. He told her a story of courage and struggle. "His story was a great inspiration for me," says Xia, "it made me want to pour my heart into finding out what was troubling him."

Xia learned Walters was an only child of healthy parents. That he, too, had been healthy until about a year ago when he had started feeling tired all the time. He had begun to look sickly. And he had begun to have headaches, the 24-hour, pounding kind no aspirin could quell.

Walters and his wife, a nurse, worried that stress was behind the changes, so he had his blood pressure checked. It was through the roof. Perhaps, they thought, the high blood pressure was causing another recent symptom: torrential nosebleeds.

Visits to his doctor led to medication to control his hypertension. Blood tests showed elevated liver enzymes. The fatigue, nosebleeds, and sickly complexion worsened. Additional blood tests and results from an abdominal ultrasound and an echocardiogram added girth to his accumulating file but provided no clue to the root of his problems. A visit to a

"I was stunned by his look. I had never seen such a face. It was a gray, almost greenish, brown—very unhealthy looking. I remember thinking he must have something very unusual."

"She has a commanding presence," he says, a small smile tucked within his soft, polite Texas drawl. "She's thorough. She goes straight to the heart of the matter in a way that's up front and honest. Yes, ma'am, she's something else."

"Bobby Walters is a big young man," says Xia. And at a height of 6 feet 5 inches and a weight of 280 pounds, he is indeed strapping. Yet, on the morning they met, he looked less than his best. He was more than a year into a fight against an illness that had baffled his personal physician as well as several medical specialists.

An urgent call from his doctor spurred Walters to visit Xia's office. Something "bad wrong," he says, had surfaced in recent test results and his physician had urged him to see Xia, a gastroenterologist and hepatologist who had moved to Trinity Clinic. Before relocating to Tyler in July 2005, Xia had spent 20 years studying, training, and working at Harvard-affiliated hospitals. Less than 24 hours after that call, Walters entered Xia's office.

dermatologist for a fungal infection meant more blood tests, more confusing results, and another concerned physician without a solution to his misery.

Throughout all this, Walters kept up his teaching schedule at the junior college and continued to participate in community activities. In fact, he told Xia, just that past Sunday, a pretty fall day of bright blue skies and light-jacket temperatures, he had been at church, had taken communion, and was helping count the collection, when suddenly his nose started shooting blood; blood even dribbled from his mouth. He grabbed a roll of paper towels and headed outside. Ten, twenty, thirty minutes passed but still the flow would not be stanchied. Walters was well into a second roll of toweling when a fellow church member stepped outside to check on him.

"I thought he was going to pass out when he saw me," Walters says. In no time, Walters's wife was alerted, and he was bundled into the car and sped to the local hospital.



Three days later, and 25 pounds lighter, Walters left the hospital, listened to the urgent message from his doctor, and learned he should meet with Xia.

### The Devil Is in the Detail

Xia began the physical exam. "I knew I had to look for something other than what might be a common cause of such symptoms," she says. The something other came when she checked Walters's eyes. They looked hazy, and she noticed what appeared to be brownish deposits around the rims of his corneas.

Suddenly, in the back of Xia's brain, a zebra softly pawed the ground.

She rushed from the room and asked the secretary to set up an appointment with a good ophthalmologist immediately. The secretary replied that it might be two weeks before Walters could be seen.

"This young man doesn't have two weeks," Xia said.

While waiting, Xia hustled Walters to the clinic's laboratory. "He was so sick; I worried his liver was in a state of cirrhosis."

After several phone calls and a bit of arm-twisting on the part of the dedicated secretary, Xia had an appointment for Walters. Before an hour had passed, Walters was with the eye specialist.

Xia soon had confirmations of her diagnosis. The ophthalmologist had sighted Kayser-Fleischer rings circling Walters's corneas, and a biopsy showed that Walters's liver had high copper levels and was cirrhotic.

Walters had Wilson's disease, a metabolic disorder that causes copper to accumulate to toxic levels in the liver and brain. As an autosomal recessive condition, the disease manifests primarily in people between the ages of 5 and 40 who have received the gene from each parent. It is relatively rare—worldwide, it is found in 30 people per million—and does not discriminate; its incidence is the same in all races and nationalities.

"Before making this diagnosis, I had seen Wilson's disease only in a textbook," says Xia. "I was thrilled when the diag-

nosis was confirmed because it meant we finally knew how to help Bobby."

Lately Walters has been making trips to the Baylor Regional Transplant Institute in Dallas. His liver disease has been stabilized and he has been approved for a liver transplant as soon as a compatible organ is available. Meanwhile, Xia has him taking medication that chelates the copper in his body, allowing it to flush from his system, and another drug that helps counter the side effects of the chelating agent. In addition, she's placed him on a strict diet: no leafy greens, dried

fruit, shellfish, nuts, or chocolate. But Xia allows Walters to work in the occasional serving of beef. "We're cattle people," he says. "I live for a good steak."

After taking time off to ensure his treatment remained on track, Walters returned to teaching. His students, he says, were curious about his illness. "They wanted to know what had made me so sick," he says. "So I talked to them about the disease, how it affected my liver, and how I'm preparing for a transplant."

Xia, too, is addressing issues concerning the next generation, but with Walters and his wife. She plans to set them up with a genetic counselor so they can discuss whether Wilson's disease might affect any children they may have.

The sick young man that Xia met that October morning is gone; Walters once again looks healthy and has much of his energy back. Xia is pleased she was able to help. "This experience has

been very rewarding," she says. "If my work can make a difference in Bobby's life, I'll be very happy." ■

Ann Marie Menting is associate editor of the Harvard Medical Alumni Bulletin.

"Thinking Zebra," a new, occasional column for the Bulletin, refers to the advice many medical students receive when learning the art of diagnosis: "When you hear hoofbeats, think horse, not zebra." If you have an unusual diagnosis you would like the Bulletin to consider for this column, please email [ann\\_menting@hms.harvard.edu](mailto:ann_menting@hms.harvard.edu).



## Peace of Mind

**T**O THOSE WHO LIKE TO FOLLOW trends in popular culture, here's a heads-up. A new exercise sensation may be about to sweep the land. Unlike other popular fitness waves, however, this one will not be about creating a buff body—it will be about beefing up the brain.

A team of researchers has found that meditating for as little as three-quarters of an hour each day can physically change the human brain, plumping those regions that affect our working memory, used in short-term reasoning or planning, and our ability to sense what's going on around us. Better yet, this meditation-fueled growth accrues with age.

The study involved 35 people from all walks of life: 20 who practice Buddhist insight meditation—a form of contemplation that focuses on “mindfulness,” which allows the practitioner to be a nonpartisan observer of his or her thoughts, feelings, or sensations—and 15 people who served as controls. The practitioner-participants had an average of nine years of meditation experience and meditated an average of 40 minutes daily. The controls had no experience with meditation or yoga. Participants were matched for sex, age, and education; all were white.

The study team, led by Sara Lazar, an HMS instructor in psychology in the Department of Psychiatry at

Massachusetts General Hospital, used standard magnetic resonance imaging (MRI) to plumb the participants' cortical depths. The 20 who practiced meditation were scanned while meditating and had their breathing rates measured to determine their depth of meditation—the slower the breathing, the deeper the experience. Control participants also were scanned, and cortical thickness measures from the two groups were statistically analyzed and compared.

The investigators found that the outer layer of the cerebral cortex in regions associated with cognitive, sensory, and emotional processing was significantly thicker in meditation participants than in control participants. Because the thickened regions were those linked with breathing sensations and sensory stimuli—activities that practitioners of insight meditation focus on repeatedly over time—the thickening was considered to be the result of meditating regularly, of giving the rind of the brain a daily Nautilus workout.

The scientists also found something rather provocative. Although

aging normally thins the cortex in the regions they were monitoring, the researchers found that gray matter heft in the 40- to 50-year-old meditation participants was similar to that of the 20- and 30-somethings in the control group. This finding led them to speculate that insight meditation might actually offset age-related thinning of the cortex.

The investigators are encouraged by their findings but know that further work is needed to validate the notion that meditation improves the health of the human brain. In a future study, they plan to measure the cortical dimensions of the brains of a large group of participants both before and after meditation. The study appeared in the November 28, 2005 issue of *NeuroReport*. ■



## ON PILLS AND NEEDLES

**I**T WAS THE BOUT OF THE BOGUS, the fight of the fakes. In the one corner, little blue pills. In the other, make-believe acupuncture.

Would either KO chronic arm pain? Or would one hit the convos, coving to its competition?

When the bell rang, a winner was declared—sham acupuncture relieved pain better than fake pills. Yet it's not that pretend acupuncture is superior to pretty pills, say the researchers. It's that acupuncture has better footwork, more ceremony, notable ritual. To the study participants, it really could sting like a bee.

The contest between these treatment contenders was refereed by Ted Koptchuk, an associate director of the Division for Research and Education in Complementary and Integrative Medicine at the School's Osher Institute. Instead of conducting the usual test of whether placebos themselves show any efficacy, Koptchuk and colleagues wanted to investigate what effects the rituals that accompany medical interventions may have on patients.

"It's upside-down research," says Koptchuk. The right-side-up findings appear in the February 1 issue of the *British Medical Journal*. The study is among the first to investigate placebos as variables in the clinical environment rather than as generalized phenomena.

The scientists enrolled 270 people in the study; each had arm pain that had persisted for at least three months and had been caused by repetitive use. On average, participants rated their pain at 3 or greater on a 10-point pain scale. All participants received informed-consent forms that described possible side effects: temporary soreness for acupuncture and fatigue and dry mouth for the pills.

The trials had two phases. The first phase evenly split the participant pool, administering the placebo pill to one half while delivering sham acupuncture to the other half.

The placebo pills were small and blue, replicating the size and color of amitriptyline, an antidepressant often used to treat repetitive-strain injuries. The sham acupuncture device looked like a real acupuncture needle, and the method used to "insert" it employed the same props and procedure used for real acupuncture. The only difference: the sham device retracted on contact.



Phase one ended after two weeks with all participants reporting a reduction in pain that allowed them, for example, to sleep better, open jars more easily, or write more comfortably. They also judged the placebo and the sham device to be nearly equal in their capacity to provide relief.

The second phase shuffled the participants into two new groups. Each group was further split so that the placebo pill could be pitted against real pain medication and the sham device could compete with real acupuncture. The pill trial lasted ten weeks, the period needed to ensure a steady-state concentration of the real drug in the bloodstream while the acupuncture trial lasted four weeks, a length of time believed to be necessary to provide pain relief.

What the researchers found when they analyzed the data is a testament to the magic of the mind. Participants receiving the sham acupuncture in the second phase reported a greater drop in pain and symptom severity than that experienced by those taking placebo pills. In addition, the side effects described by participants mirrored those described to them during the informed-consent process: 25 percent of the people undergoing sham acupuncture experienced swelling and soreness in their arm and 31 percent of the people taking placebo pills reported fatigue, dry mouth, and dizziness.

"Placebo effects seem to be malleable," says Koptchuk, "and they depend upon the behaviors embedded in the medical ritual." ■

## If You Go Away

A SENSE OF ABANDONMENT, isolation, and even fear wells when illness or death disrupts the link between two people. On society's behalf, literature, performance, and song might profess the pain of the lost bond. But in the intimate arena, reaction to such a rending is often quiet—and often harmful.

"Human interconnection has forever been the focus of poets," says Nicholas Christakis '88. "Even Homer wrote about the connection between Hector and Andromache. The value of these human connections is something I have always been mindful of. It has infused my academic interests."

One result of this infusion appeared February 16 in the *New England Journal of Medicine*. In a paper describing the largest study yet to measure the "care-giver effect," Christakis showed that among people aged 65 or older, the hospitalization of a spouse frequently harms the health and well-being of his or her partner. It can also increase that partner's risk of death.

And the degree of risk can vary. A comparison of risk of death to type of illness showed that diagnosis of certain illnesses in a spouse increased the partner's risk of death more than diagnoses of different, even more lethal, conditions did.

"The findings are striking," says Christakis, a professor of medical sociology in the School's Department of Health Care Policy, "and have clinical and policy implications. Health care might indeed be more socially efficient and more cost-effective if we look beyond the individual case."

Christakis's nine-year study of this association between the hospitalization of a spouse and the health of the caregiving partner involved more than 500,000 couples who were enrolled in Medicare in 1993, the year the investigation began. Ages of the participants ranged from 65 to 98. For nearly 80 percent of the couples, the husband was the



**PLOTTING THE FUTURE:** Arden Peters of Gladesville, West Virginia, sits on the headstone he and his wife have had prepared and erected in a cemetery adjacent to their farm.

older of the pair. Socioeconomic measures of the participants showed the group to be mostly white (90 percent of the men and 92 percent of the women) and to have incomes above the poverty line (95 percent of the couples).

During the study, nearly three-quarters of the husbands and just over 65 percent of the wives were hospitalized at least once. Forty-nine percent of the husbands and 30 percent of the wives died; and for 18 percent of the couples, both the husband and wife died.

When analyzing the findings, Christakis and co-investigator Paul Allison, a sociologist at the University of Pennsylvania, were able to give added meaning to the data by statistically wedding the caregiver effect data with those from their concurrent study of the bereavement effect—how the death of one

spouse might affect the mortality of the other spouse—within a group of more than 400,000 couples. With this bifocal perspective, Christakis and his colleague could assess the implications that specific illnesses or diseases held not only for a partner's health and well-being, but also his or her risk of death.

The results are sobering testimony to the toll "in sickness and in health" can exact. When a spouse is hospitalized, the partner's risk of death increases significantly, remains elevated for up to two years, and is greatest during the first 30 days after the spouse enters the hospital. During that 30-day blink in a lifetime, a partner's risk of dying is nearly the same as it would be if his or her spouse had died instead of being hospitalized: a 53-percent increase in risk of death for a husband who has lost his



## MEDICINE IN FULL COLOR

### TALK TO ME

The root of racial discrepancies in treatment may not be unequal access but instead may be problems in doctor-patient communications on treatment options. In the January 20 issue of the *Journal of Clinical Oncology*, a Dana-Farber Cancer Institute team led by Christopher Lathan, HMS instructor in medicine, reports significant differences in the rates at which African Americans and whites took part in procedures to stage non-small-cell lung cancer and in curative surgical operations for the disease. Analyzing tumor-registry data for 21,219 lung cancer patients, the researchers found that in instances of equal access, African American patients were 75 percent as likely as whites to undergo staging tests and 55 percent as likely to have an operation, despite equal post-surgery survival rates.

### GETTING CULTURED

A recent look at how cells handle oxidative stress may have shed light on a better way to address cardiovascular disease among African Americans. Research led by R. Preston Mason, HMS lecturer in medicine at Brigham and Women's Hospital, has shown that vascular endothelial cells from African American and white donors improve their production and release of nitric oxide, which helps maintain normal blood pressure, when exposed to nebivolol, a new-generation beta-blocker. The improvement was especially notable in cells cultured from African American donors (90 percent); changes found in cells from white donors registered around 40 percent. The drug also appeared to reduce levels of free radicals produced by both cell groups. The findings appear in the December 13, 2005 issue of *Circulation*.

### WAITING TO INHALE

New medical technologies are less likely to be offered to minority patients than non-minority patients especially in the first years following their introduction, say investigators at Massachusetts General Hospital. Analyzing data from 3,671 physician visits by patients with asthma between 1989 and 1998, the team found that during the first two years studied minority patients received inhaled steroid medications less than half as often as non-minority patients. Although differences in usage disappeared by the mid-1990s, the change reflected increased use among African American patients. The low rate of prescription for Latina patients remained unchanged. The study, in the January issue of *Medical Care*, was led by Timothy Ferris '92, an HMS assistant professor of medicine at MGH's Institute for Health Policy.

### WILL THE CIRCLE BE UNBROKEN

The combination of a tight family, a solid social network, and a self-sufficiency fostered by shared domestic responsibility essentially eliminates the "widowhood effect" among black couples, say Nicholas Christakis '88, an HMS professor of medical sociology in the Department of Health Care Policy, and Felix Elwert, a sociologist at Harvard University, because it helps extend the health benefits of their marriages. Reported in the February issue of *American Sociological Review*, the authors' nine-year study of 410,272 couples found white couples had no such advantage, with husbands 18 percent more likely to die shortly after their wives and wives 16 percent more likely to die soon after their husbands.

wife and a 61 percent rise in death risk for a wife who has lost her husband.

The disease that sends a spouse to the hospital also modifies the partner's risk of death. A spouse's hospitalization for cancer does not significantly increase the risk of death for his or her partner. A partner's risk of dying within one year of a spouse's hospitalization rises significantly, however, if the spouse is sent to the hospital for illnesses such as congestive heart failure, psychiatric conditions, or dementia. Over the long run, for example, having a spouse hospitalized for dementia increases a husband's risk of death 22 percent and a wife's risk 28 percent.

While such diseases are less lethal than cancer, they interfere with a spouse's physical or mental ability, a consequence that Christakis thinks makes them more burdensome to—and more harmful to the health of—the partner.

Although illness and death each create stress and adversely affect social support for the partner, the study shows that these consequences play out over different time frames. Christakis considers this to be the result of two mechanisms: short-term stress and long-term lack of social support.

"Stress affects the partner in ways to which he or she eventually adapts," he says, "so the health risks of being a caregiver decline. Eventually, however, the lack of social support associated with the illness or death of a spouse becomes a problem, and health risks increase again."

With strong evidence in his pocket for how the social network of couples affects health, Christakis looks forward to analyzing the results of his next investigation: measuring whether larger social networks—ones that include parents, siblings, spouses, neighbors, and friends—are associated with the adoption of health-related behaviors. ■

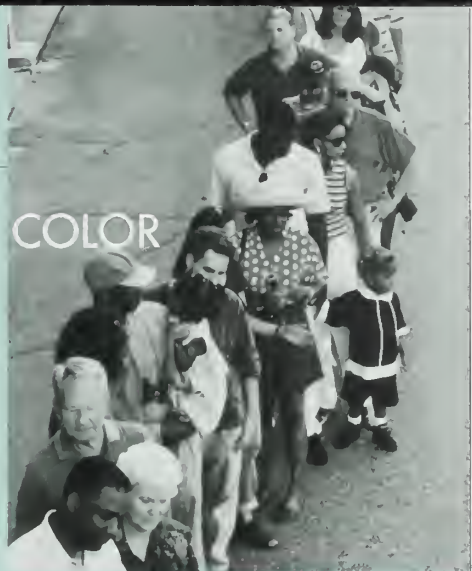


Photo: Chuck Kova/Photo

# VANISHING ACTS

An emergency  
room doctor  
recalls the gang  
culture of his  
youth as he helps  
young men and  
women erase the  
tattoos that link  
them to a  
violent past.  
BY LUIS MORENO

**I WAS ATTENDING** my first rap concert, and all the big names were there: Run-DMC, the Beastie Boys, LL Cool J, Whodini. The loud, percussive music was pumping through my hormonally charged adolescent psyche when suddenly I realized a fight had broken out in front of the stage. From our perch on the upper level, it seemed to be only a skirmish. But the clot of combatants quickly absorbed everyone nearby, and the battle began escalating in size and lethality.

The music stopped, the lights flickered on, and one of the rappers pleaded for the fighting to stop. If it didn't, he warned, the concert would be cancelled. But the melee didn't end, and the security guards who rushed to the scene proved no match for the increasingly ruthless fighters. Soon everyone on the lower level had fled.

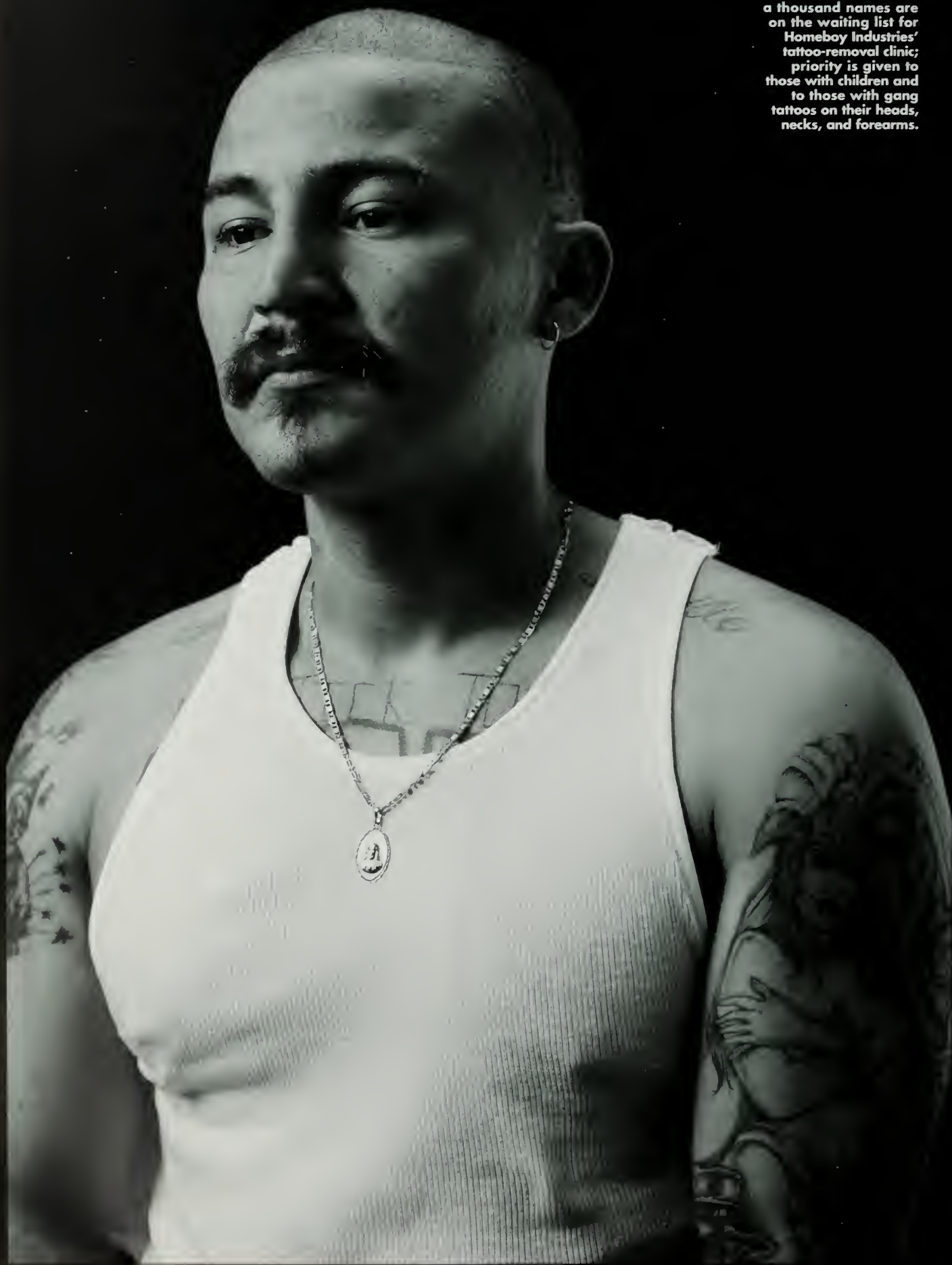
Frozen in our seats, we watched in horror as the brawlers stormed the stairs and began beating the concertgoers sitting on the other side of the upper level. I saw then that the combatants belonged to the Aiders gang; they had stripped the R's from their black Oakland Raiders football jackets. Several of them encircled a young man who bravely held his ground while everyone else in his section escaped. But then two Aiders simply picked him up and threw him over the railing; his crumpled body lay motionless on the floor.



**DRAWING FIRE:**  
Some of Luis  
Moreno's patients  
have told him that  
the tattoo-removal  
process feels like hot  
grease splashing  
their skin.



**WAR PAINT:** More than a thousand names are on the waiting list for Homeboy Industries' tattoo-removal clinic; priority is given to those with children and to those with gang tattoos on their heads, necks, and forearms.





BY THE TIME I WAS SEVEN, I NOT ONLY COULD DRAW THE SIGNS  
OF THE NOTORIOUS 18TH STREET GANG, BUT **I HAD ALSO USED**  
**THEM TO DEFACE ELEVATORS, SIDEWALKS, AND EVEN A VAN.**

The predators headed to our section. I kept my head down and held my breath. When they strolled past us I exhaled in relief. Suddenly I felt a blow to my right temple. Turning, I saw a dozen gang members facing me, their malice vibrating from their taut bodies and deadly stares. I feared I'd be the next one tossed over the railing. I unlocked my eyes from their glares, fixed my gaze on the ground, and numbly awaited the punches I was sure would come. But nothing happened. Unchallenged, the gang members walked away and I, my petrified date, and everyone else in our section rushed down the stairs to the safety of our cars. Later we learned that more than 40 people had been beaten or stabbed that night.

#### FALLEN ANGELENOS

It was the summer of 1986, and Los Angeles was struggling with a gang crisis. Gang members were claiming turf by killing rivals in drive-by shootings, tagging property with the names of their cliques, wearing representative colors, and tattooing their bodies.

The rap concert was not my first brush with Los Angeles gangs; the street I grew up on snaked through the territory of the notorious 18th Street gang. Although I never joined a gang, I had flirted with that culture from an early age. By the time I was seven, I not only could draw the 18th Street gang signs, but I had also used them to deface elevators, sidewalks, and even a van.

My mother—who had to pay for the damage to the van when, spraycan in hand, I was caught admiring my handiwork—proved my saving grace. A single parent who worked two jobs, she had determination, guts, and the vision of a better life for her child. The pursuit of good grades became my battle cry, and as I grew into adolescence, I no longer admired gang bangers; instead, they terrified me. A member of the PlayBoy gang—or PBG—always waited for me at my bus stop to try to recruit me. He wore tattoos

with “PBG” in bold letters on his neck and one arm. When he would see me walking toward the bus stop he would bellow from across the street: “P-B-G fool!” and proudly display his gang sign: a half closed fist with his thumb pressed against the palmar webspace between his first and second digits. As he bragged about robbing and beating up elderly women, I would feel a wash of loathing. I also feared he wouldn't leave me alone. Eventually, though, he moved on to other marks.

I moved on as well—to UCLA, then Harvard Medical School. It was only when I had nearly finished my residency in emergency medicine that I became reacquainted with gang culture. Our department chief had invited Father Gregory Boyle on rounds to tell us about the gang problem in East Los Angeles.

Dressed in jeans and sporting a white goatee, the bespectacled Catholic priest described how gangs destroyed young lives. He had recently marked a sad milestone—the burial of his 100th gang member. To help provide these young people with options, in 1988 Father Boyle founded Homeboy Industries, for which he adopted the motto “nothing stops a bullet like a job.” He worked with local business owners to create employment opportunities for young men and women to get them off the streets. He soon realized, however, that when gang members decided to reform their lives, their tattoos often prevented them from being hired. The only jobs left for them were those away from the public eye, such as in stockrooms or on loading docks.

Yet tattoo removal is expensive, and the few free services offered all required community service first. Father Boyle believed, though, that the instant gang members decided to reform, they should be freed of financial and logistical obstacles. “The most motivating factor for tattoo removal,” he said, “is that moment of shame each gang member feels when his or her five-year-old points

to a gang tattoo and asks, ‘What’s that?’ All gang members want better lives for their children.”

Father Boyle ended his speech by soliciting help for a free tattoo-removal clinic to serve the gang population of East Los Angeles. With a grant from The California Wellness Foundation, he had purchased a laser machine, but for want of a doctor, it sat unused in his clinic.

I felt tempted. Time constraints during residency had provided me with little opportunity for community service, but I was nearing the end of my training. I wanted to give back to my childhood community, and I wanted to learn about laser medicine. Yet having grown up in gang territory, I knew well the dangers that could await me if I chose to volunteer, and I didn't want to end up on the five o'clock news as the victim of a drive-by shooting. Days later, after much careful thought, I called Father Boyle.

#### GOING HOME AGAIN

As I drove east over the Los Angeles River, I realized how much my perceptions about East Los Angeles had changed since my boyhood. I understood for the first time just how predominantly Latino it was. From my car, I could see—through graffiti-etched Plexiglas and steel bars—into a laundromat where several young Latinas sat together while their rambunctious kids played nearby. As I drove farther east, searching for Homeboy Industries, I thought of how much my life had changed. I felt conspicuous in territory that had once been familiar. Remembering the sucker punch I had taken at the rap concert 15 years earlier, I was determined to avoid becoming a victim again.

I found Homeboy Industries inhabiting a pastel-green-painted brick building whose sign read, in bold, golden letters, “Jobs for a Future.” Surrounded by sleazy bars, condemned buildings, and liquor stores, Homeboy seemed an oasis. I parked my car, and as I approached the building, I could hear the beautiful

HAVING GROWN UP IN GANG TERRITORY, I KNEW WELL THE DANGERS THAT  
COULD AWAIT ME IF I CHOSE TO VOLUNTEER, AND **I DIDN'T WANT TO END  
UP ON THE FIVE O'CLOCK NEWS** AS THE VICTIM OF A DRIVE-BY SHOOTING.

harmonies of a Spanish-guitar trio floating from the corner music store. Just then, the vibrating boom of rap from a passing car drowned out the tender love song. I felt my body tense, ready to duck to avoid becoming collateral damage should a teenage passenger consider gunning me down as an easy initiation into a gang.

When I entered the community center, a young woman greeted me warmly and directed me to the back. I was there to meet with a clinical trainer from the laser-machine manufacturer. As I headed to the clinic, I could see half a dozen young men and women sitting in front of computers and answering phones; their visible tattoos marked affiliations with gangs.

Given all the former gang members desperate to erase their links with a violent past, I soon became proficient at laser tattoo removal. My feeling of being accepted came quickly, too. The experience reminded me of taking Spanish in college. Although Spanish had been my first language, I had forgotten most of it by the time I reached adolescence. Yet during my first class the language reemerged from deep within my cerebral cortex, giving me a fluency that was startling. Similarly, my old familiarity with the gang lifestyle raised a slight nostalgia, though one tinged with a constant premonition of danger.

When I first took the position of medical director of the clinic, I found myself there dozens of hours each week. After residency, I continued my work at the clinic twice a week while working in the emergency departments of three local hospitals. The clinic's waiting list had grown to one year, so, to keep the clinic staffed and help meet the demand, I trained more than 30 medical residents and many retired physicians who wanted to give back to the community. We decided to call the clinic *Ya'stuvia*, slang for "I'm done with that," but many people just call it the Homeboy Laser Tattoo Removal Clinic.

#### SKIN DEEP

Everyone says having a tattoo removed is more painful than having one applied. Some of my patients have told me the procedure feels like hot grease splashing their skin. To help them work off the pain during the procedure, I offer them a rubber chicken named Chuck, whose eyeballs bulge when he's squeezed tightly.

Some tattoos are intricate; others are simple, such as a pair of devil's horns drawn on a forehead, or a line circling a throat with the words "cut here." Sometimes the tattoos are homemade; dull guitar-string needles are dipped in a hot molt of black checker pieces to scratch patterns across the skin.

With the wand-like arm of the laser, I trace each stroke slowly, breaking up the ink with the intensive light. More complicated tattoos require multiple sessions, and as tattoos gradually fade they often leave shadows on the skin. Patients with more extensive tattooing may need at least ten visits, which allows me to get to know them well.

We've already treated nearly 2,000 people, and our waiting list still tops 1,600. We give priority to those with visible gang tattoos—on the head, neck, or forearms—and to those with children. We know, though, that the visible tattoos are not the only dangerous ones. If our patients wander into the wrong neighborhood, gang members may yank up their shirts or push up their sleeves to check for hidden gang-related tattoos.

Most of our patients are of Mexican descent, though a growing number are from other Latino groups or are African American or Caucasian. Approximately one-third of our patients are female. These patients come from around the neighborhood and all over the state. Some arrive from youth detention facilities in leg shackles and handcuffs. Others are sent by law enforcement agencies, homeless shelters, or prisons. Some simply walk in from the street or are brought in by parents or spouses.

Their reasons for seeking tattoo removal vary as well. Gang tattoos have prevented some from being promoted at work or accepted into the military. "I'm doing it for my kid," many tell me, or "I'm scared I'll get shot." Others have cited their desire to live a better life, to move to a new neighborhood, or to bring up their children free of the influence of gangs.

That influence is powerful because children can become desensitized to the gang lifestyle—the drugs, misogyny, violence, and dereliction—at early ages. My informal surveys have shown that nearly one-third of the clinic patients received their first tattoo by age 12. Usually a relative has commissioned the tattoo, a trend that underscores the deep roots that gang culture extends through generations. Gang tattoo prevention and removal are essential steps in breaking the cycle of gang recruitment and growth.

#### REBEL WITH A CAUSE

When I first met him, Father Boyle had proudly told me that in all the years of Homeboy's existence, not a single episode of violence had marred the daily miracle of former gang rivals working together. During my first year at the clinic, I joined the annual Homeboy softball tournament, which pitted the junior staff, the senior staff, and the graffiti removal crew against each other. That day, as I watched former rivals help amputee victims of gang violence to bat and run the bases, I felt proud to witness the success of Father Boyle's seemingly impossible mission: peace between enemies.

But the peace did not last. Two years after I had begun volunteering at the clinic, rival gang members gunned down one of our graffiti crew members as he was painting over graffiti at five in the morning. Hours later the mother of another crew member, Eduardo, rushed into Homeboy crying hysterically, convinced that her son had been the victim. When she saw him standing there in his paint-stained, fluorescent-orange protective



**EQUAL RITES:** One-third of the former gang members who seek tattoo-removal services are female.



**MARKED MAN:**  
Tattoos can prevent  
former gong mem-  
bers from securing  
employment, join-  
ing the military, or  
even moving to a  
new neighborhood.





AT THE CLINIC, I FEEL ENCOURAGED BY PEOPLE'S STRUGGLES TO CHANGE  
THEIR LIVES, **TO FIND A WAY TO TRANSCEND POVERTY AND DANGEROUS  
ENVIRONMENTS,** TO BUILD SOMETHING BETTER FOR THEIR FAMILIES.

uniform, she let out a scream and clasped him to her chest in desperate gratitude.

Eduardo, a former member of a Salvadoran gang, had always tried to keep a low profile, and he was hoping that his identification as a Homeboy employee would save him from his former rivals. He was clearly shaken by the shooting but eventually became convinced, as we all did, that the shooting had been a random act of violence, or perhaps the result of a personal vendetta. Eduardo continued his work painting over gang graffiti, and I continued my work of rendering ink invisible.

One summer morning, two months after the shooting, I had just started working on my tenth patient when I heard a pounding on the door to the clinic. A Homeboy staff member ran in and yelled, "Eduardo's been shot!" My patient sat unperturbed as I switched off the laser, tore off my protective glasses, and sprinted from the room. Just a block away, police officers were already swarming the scene; the shooting had happened in front of the police station in broad daylight. Police were unfurling yellow tape and pushing the gathering crowd to the perimeter when I yelled out to an officer, "Please let me in! I'm Eduardo's doctor." The officer hesitated; I certainly looked more like a local than a physician. He told me to wait while he got his sergeant.

While I stood there, still slightly panting, I reviewed a range of medical options. I even mentally rehearsed the prospect of having to perform an open-chest thoracotomy if Eduardo's penetrating wounds had caused him to lose vital signs. Just then the sergeant appeared. "You his doctor?"

"Yeah, I run the clinic down the street. And I'm an ER doc." Convinced, the sergeant let me in. Almost immediately I saw the crumpled fender of the Homeboy pickup truck resting against a telephone pole. Then I spotted a gurney being wheeled to an ambulance. Eduardo hadn't been intubated, but was receiving

bag valve-mask ventilation. His protective fluorescent orange vest had been peeled off, and I counted a line of four wounds from his mid to upper torso. As I unsuccessfully sought a carotid pulse, I noticed two more bullet holes in his right temple. Eduardo's pupils were blown and dilated, and I realized there would be no heroics that day.

The paramedics allowed me to climb into the back of their rig anyway. I placed another intravenous line in Eduardo's antecubital fossa and ran an advanced cardiac life support protocol. "Chest compressions, one milligram of epi...hold for pulse...resume chest compressions...one milligram of atropine...hold for pulse..." When we arrived at the hospital, Eduardo was pronounced dead.

#### A CLEAN START

The police determined that the shooting had been carried out at close range from the passenger side at a stoplight. Eduardo must have seen the danger, as he had pressed the gas pedal, but too late.

While I was still in the hospital the police asked me to talk to them at their precinct, several hundred feet from the clinic and the crime scene. As we drove by the site of the shooting, I slid down in my seat in the back of the police car to avoid being recognized. Over the years, I had treated thousands of former gang members. Any suspicion that I collaborated with the police would compromise my work at the tattoo clinic.

That was not my only concern for the future, though. A second brazen murder against a Homeboy employee was casting doubt over the motto "nothing stops a bullet like a job." I worried what the gang response would be and wondered whether it was still safe to work at Homeboy.

After leaving the precinct, I returned to the clinic to make sure the door was closed. There, to my amazement, I saw my patient sitting on the same stool he had been perched on when I'd dashed out

three hours earlier. "I can't believe you're still here," I exclaimed. "I thought you'd be long gone!"

"No way, Doc," he replied. "I want this tattoo off."

#### THE GREAT ESCAPE

During long hours at a local emergency room, I treat gang members with gunshot and stab wounds. I also see the victims of their crimes. At the tattoo-removal clinic, though, I learn about gang members' hopes for the future. That may be why I savor my hours in the clinic more than those spent in the hospital. In the emergency room I witness the aftermath of violence. At the clinic, I feel encouraged by people's struggles to change their lives, to find a way to transcend poverty and dangerous environments, to build something better for their families.

I sometimes glance at a photo of me removing a tattoo from the arm of a former gang member. Taken in profile, the photo reveals a great deal of similarity between the patient and me. We grew up in the same environment, but a determined, loving parent's guidance and a solid education allowed me to escape the violence around me.

Legacy is a powerful force. It can give you the tools to get into Harvard or San Quentin. Homeboy has survived the murders. The graffiti-removal program had to be suspended, and the alleyway entrance was blocked off last year when another former gang member was gunned down there. But the mission of gang rehabilitation through intervention and job placement remains strong and growing. Homeboy has helped more than 5,000 young men and women leave the streets for jobs. Father Boyle's work may never be done, but his legacy will continue to inspire many lives for years to come. ■

*Luis Moreno '97 works as an emergency room physician at Antelope Valley Hospital in Lancaster, California.*

**RESCUE MISSIONS:** Blackhawk helicopters are used to take injured U.S. soldiers, Iraqi forces, and civilians to the hospital on the Balad Air Force base.



PHOTO: THOMAS DWORAK/MAJ. JIM PHOTO

A combat physician on duty in Iraq learns valuable lessons





# HONOR



about courage and sacrifice.

**By JAMES S. EADIE**



**T**

he plane banked steeply left, then right. I could feel the G forces snapping my head back as the pilot pushed the nose of the military C-130 cargo plane down into its sharp descent. This was it, the ultimate thrill ride—a combat landing, designed to avoid being hit by enemy ground fire. Our plane pitched and then plunged. The pilot gave us simple landing instructions: hold on. I wore a Kevlar helmet on my head, an M9 pistol strapped to my leg, and 24 pounds of ceramic-plated body armor around my chest. I felt prepared.

But both my heart and my stomach lurched; we were going down fast. As the plane accelerated into the dive, I experienced a mixture of excitement and sheer terror. I bowed my head and muttered a small prayer. We pulled up and hit the runway hard, as if we had simply dropped from the sky. The wheels and engines screeched, the smell of burned rubber filled the air, and suddenly everything stopped. We were on the ground.

As the large cargo door lowered, a wave of heat blasted through the plane. I gazed out onto a land of concrete and sand. A scorching 115 degrees and still only morning: Welcome to Balad Air Base, Iraq, my home for the next four months.

### Theater of the Surreal

I had been expecting this deployment for years. After Reserve Officers' Training Corps at the University of Michigan, I had deferred active duty to attend Harvard Medical School and to train in emergency medicine at Massachusetts General Hospital and Brigham and Women's Hospital. By the time I went on active duty as an Air Force emergency physician at Wilford Hall Medical Center in San Antonio, Texas, the war was raging in Iraq. My assignment there seemed inevitable.

Located nearly 50 miles north of Baghdad in an agrarian region bordered by the Tigris River, Balad had been a base for Saddam Hussein's air force. Now the major air transport hub for U.S. forces in Iraq, the base covers 15 square miles. It is home not only to tens of thousands of Army and Air Force troops, but also to the Air Force's Theater Hospital, one of the largest military trauma centers in Iraq and the hub of the aeromedical evacuation system. This was my staging ground as a physician assigned to one of the five Air Force Critical Care Air Transport Teams (CCATTs) in the country.

The CCATT concept forms part of the wider military medical evacuation plan. During past wars, including the Persian Gulf War, injured soldiers received care at large hospitals located in or near the theater of war. Critically injured soldiers sometimes spent weeks in these facilities. The model has since changed. Now, injured soldiers are quickly stabilized, flown to Germany, and then transferred to the United States for continued care. The evacuation of critically ill patients from the battlefield to state-of-the-art medical centers in Germany and the United States within 24 to 36 hours of injury has revolutionized wartime medicine.

As we disembarked and gathered our bags, I reflected on the stories of those who had preceded me. My preparation had been thorough, and I knew it would serve me well. I had com-





pleted my training, received my shots, and even learned to fire an M16 while wearing a gas mask, though I hoped I would never have to use the weapon—a physician firing a gun seemed like a bad idea.

During my first few weeks, I often felt as if I had landed on the set of *M\*A\*S\*H* or *Saving Private Ryan* rather than in an airbase in Iraq. The constant visual and auditory stimulation was overwhelming. Whether it was the medevac helicopters bringing in injured soldiers 24 hours a day or the caravans of armored vehicles heading off base for patrol, I knew I was in a war zone. I walked everywhere wearing full-body armor and a helmet, as the base was under frequent mortar attack. I felt out of place, as if I were merely pretending to be a soldier. But then I would catch my long shadow with its distinctive silhouette of a combat helmet and shiver—this was for real.

Before arriving in Iraq I had wondered whether I would recognize a mortar attack; I'd been told it sounded like a car door being slammed. When the first attack came, I was shampooing my hair. I heard a loud explosion and felt the trailer shake. That had been no car door. I quickly peeled back the shower curtain and peeked out. Great, I thought, I'm going to be hit by a mortar while *naked*. After more explosions, the warning sirens began to wail—a little late, I thought. I learned later that the mortars had landed more than half a mile away. I wondered how the effects would feel up close.

Although I had read that the United States was spending as much as \$200 million a day on the war effort, I was unprepared for its sheer scale. Everywhere I saw armored

Humvees and heavily steel-plated gun trucks that looked as if they had driven right out of a sci-fi movie. F-16 fighter jets laden with missiles screamed into the sky with their full afterburners on, shaking the ground as they rocketed upward. Sandbags surrounded every building and tent, and 15-foot concrete blast walls protected the compound against mortars, yet the base offered a Burger King, a full-screen movie theater with Baskin-Robbins ice cream, and a coffee shop that played jazz. Ordering cappuccino to go while wearing armor felt surreal.

I was most struck, though, by the sight of men and women not much older than my teenaged siblings walking around with M16s slung over their shoulders on their way to a post, to the gym, or to the chow hall. Soldiers never went anywhere without their weapons, and I couldn't help but reflect that when I was their age all I had slung across my shoulder was a backpack laden with college books, oblivious to the life-and-death decisions these young soldiers were facing.

### Half the Battle

One of my first stops after arriving at Balad was the hospital complex. Just as I neared the tent city, two Army medevac Blackhawk helicopters flew overhead so low they could have knocked my helmet off. As the helicopters skimmed over the cement barriers separating the hospital from the flight pad, the tents shook and the prop wash pushed me back.

The pilots landed mere feet from the hospital. The blades continued rotating while crews ran out to unload the injured.



Then, as quickly as the helicopters had arrived, they flew off. As they cut a path directly over the tents, they cast brief silhouettes against the hot Iraqi sun before vanishing.

The patients were carried into the emergency room on what looked like vintage Korean War stretchers. I later learned these soldiers had been critically wounded after their Humvee hit a roadside bomb a few miles outside the base.

As I entered the tent behind the patients I heard a familiar voice call out, "Welcome to Iraq!" Vik Beberta, a fellow Wilford Hall emergency physician, gave me a quick hug. "It's kind of crazy right now," he said. "Think you can lend a hand?"

I quickly located a set of gloves and joined the trauma teams, which were in the midst of triaging the injuries, securing intravenous access, placing the critically injured on ventilators, and beginning resuscitation efforts. One soldier had burns covering most of his body. Another had a head injury, multiple fractures, and open wounds to his arms; he had also lost both his legs below the knees. I felt a strange mix of horror and exhilaration. This is what I had trained for, yet at the same time I didn't feel ready. These men were my age, and I knew I, too, could end up here as a patient. I took a deep breath and began to work. The medical care came naturally, and I soon found myself feeling comfortable.

When the flurry quieted, I told Vik how impressed I was that everything ran so briskly and smoothly. The teamwork between emergency physicians, surgeons, nurses, and technicians had seemed flawless. Vik explained that the trauma bays

must be cleared before the next round of helicopters arrives. Patients are evaluated, stabilized, and then transferred. Those needing an operating room are whisked there immediately; others are moved to the wards or intensive care units.

As the sun set, I finally got a chance to tour the hospital. This canvas wonder is designed to serve as a battlefield medical center, a trauma surgeon's dream. It has four operating theaters, three ICUs, four wards, multiple CT scanners, a large pharmacy, an advanced medical laboratory, and various clinics. The surgeons boast that they can do anything there but transplant organs.

Passing by the ICU, I paused. Clustered at the bedside of one of the soldiers we had cared for earlier were a dozen of his comrades. The patient lay motionless with his head and legs wrapped in gauze; a ventilator breathed for him. The soldiers stood silently, with their shoulders slumped and M16s slung low across their backs. Their once impeccable uniforms were smeared with dirt. The dust of battle had masked their proud faces, yet their eyes glowed brightly, as if stenciled on by their goggles. The uncanny quiet of the scene was interrupted only by the rhythmic beeps of the heart monitor, the whoosh of the ventilator, and the whispers of the soldiers as each took a turn kneeling beside the patient. Some reached out to touch his hand as they spoke words of encouragement or said a prayer, while others watched in silence.

I stood in the shadows with tears in my eyes for several minutes before finally pulling myself away. In a few hours the





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injured soldiers would be on their way to Germany accompanied by a CCATT team. It would soon be my team's turn.

### Precious Cargo

The CCATT teams in Balad are based out of an old trailer that had originally served as a latrine; it now houses a million dollars' worth of equipment. From that base, which we affectionately called home, we transformed into state-of-the-art flying ICUs. Carrying more than 500 pounds of gear, each team—composed of a critical care nurse, a respiratory therapist, and a physician—could care for up to six patients, including three mechanically ventilated ones, during ground and air transport for 12 to 24 hours at a time.

I felt intimidated though eager to get a few CCATT missions under my belt. I had done my first real mission just days before departing for Iraq, when we had responded to Hurricane Katrina. It had gone well, but one mission hardly made me an expert. Fortunately, my nurse and respiratory therapist had racked up more than 200 CCATT missions and several deployments between them. I was in good hands.

Other CCATT teams had arrived ahead of us. I knew those teams from Wilford Hall, but had not met the one from the National Guard. When we introduced ourselves, I discovered that the National Guard physician was Ralph Warren '81. After training in general and cardiothoracic surgery at Massachusetts General Hospital, he had become the hospital's direc-

tor of trauma and surgical critical care until 2000, when he left to join the Gallup Indian Medical Center in New Mexico.

We swapped stories of Massachusetts General Hospital and HMS. I was surprised to find a fellow HMS graduate in the desert. I had known only a few military physicians during my years at Harvard, and yet here we were in Balad, two HMS-trained physicians flying CCATT together. Ralph had joined the Massachusetts Air National Guard the day after Iraq invaded Kuwait in 1990. When I asked why, he said simply, "I knew we'd be going in. I knew our boys and girls would be getting hurt, and I was trained to help them."

In late September I received my first CCATT mission: a 55-year-old government contractor with congestive heart failure who had difficulty breathing. I thought, congestive heart failure? This is a war zone! Where's the trauma? As I later learned, medical conditions, especially cardiac-related ones, are common, despite predeployment physicals.

When we arrived in Germany, a tall and vaguely familiar-looking cardiologist greeted us. He and I stared, certain we knew each other. Then it hit me—the HMS Second Year Show. Of course, he had played Abe Lincoln in the infamous theatrical production. How could I have forgotten? He had been "shot" during the show. Dimitri Cassimatis '99 and I had not seen each other since medical school. After a residency in internal medicine and cardiology at Walter Reed Army Medical Center, Dimitri had become an Army staff cardiologist at Landstuhl Regional Medical Center in Germany. It had never



## I would catch my long shadow with its distinctive silhouette of a combat helmet and shiver—this was for real.

occurred to me that I'd be working with so many HMS graduates in a war zone.

Not long after returning from our first mission I came face to face with the harsh realities of war. As the Iraqi constitutional election in October 2005 approached, the violence and missions increased. We began flying out many critically injured soldiers each night. Severe injuries—ranging from gunshot and shrapnel wounds to blast injuries and serious burns—became the norm. Almost daily I witnessed the destructive power of massive roadside bombs or high-powered ammunition.

A soldier's injury triggers a chain of events, beginning with "buddy care," in which on-scene soldiers apply tourniquets to hold the pressure. The injured soldier is transported as soon as possible to the closest medical facility, where personnel conduct resuscitation efforts and damage-control surgery. Abdomens are explored, packed, and then left open with a dressing as cover for flight. Extremity wounds are cleaned, incisions are made to release the buildup of pressure in the limbs, and fractures are stabilized with external fixatures.

Within hours of the injury the aeromedical evacuation team evaluates the patient to determine when he or she can be airlifted to Germany. As military cargo planes land in Balad, the "bullets and beans" shipments are unloaded and the plane's interiors are transformed to accept patients. Once a patient is

out of surgery and a flight is booked, a CCATT team assumes care and prepares the patient for flight. The hospital equipment—including ventilators, intravenous pumps, suction, brain pressure monitors, chest tubes, and drains—are replaced with the portable flight equipment. Patients are then transferred from the hospital to the aircraft in school buses rigged to carry litters. In the plane, patients are loaded, often stacked three deep, in the center, while the walking wounded line the sides of the aircraft. During flight we had to watch the monitors closely as C-17 cargo planes are so loud they drown out the sound of alarm bells. Once in Germany we boarded specially rigged buses again and delivered the patients to the Landstuhl Regional Medical Center.

This system seems like it shouldn't work, but it does. Since the start of the Iraq war, more than a thousand CCATT missions have flown and not a single patient has died in-flight, a testament to everyone involved, from the medics on the ground, to the hospital staff, CCATT teams, and receiving facilities. The rapid movement of patients out of theater after injury has been credited as a principal reason that the overall mortality rates have significantly dropped for this war. During the Korean, Vietnam, and Persian Gulf conflicts, approximately 24 percent of combat-wounded soldiers died. In this war, according to the U.S. Department of Defense, the rate has dropped to 10 percent.



## Everyday Heroes

As our mission numbers grew, we perfected our patient care, and our team performed in synchrony. I'd seen many types of injuries and felt clinically confident. Nothing could jolt me, or so I thought.

Late one evening, we had just finished prepping a patient for a flight to Germany when a call sounded over the public address system: "Incoming trauma. All available personnel to the ER." Announcements like this seldom rang out in Balad. Summoning everyone to the ER is usually a last resort, as it creates chaos. We could hear the thump-thump-thump of multiple Blackhawk helicopters landing just outside. Our patient was stable and our plane was delayed, so we headed to the ER to help.

As I approached the tunnel leading into the ER tent, I felt accosted by the stench of burned flesh, the cacophony of numerous orders being yelled out, and the sight of a swarm of moving gurneys. After hitting a roadside bomb, a Bradley troop carrier had burst into flames. The seven soldiers had escaped, but not before suffering serious burns, shrapnel wounds, and blast injuries.

I immediately jumped in to help with one patient. He had suffered severe burns across most of his face and body. His face was blackened with soot, and his gloves had been welded to the skin on his hands and fingers. Despite his critical condition, he remained conscious. He repeatedly asked about his men, "How are they doing?" We reassured him that they were doing well and getting the care they needed. Even as I spoke, though, I feared many would never make it. I had never seen so many severely burned patients at once before.

As we made preparations to hook the soldier up to a mechanical ventilator, he told us what had happened. The explosion had damaged the large rear troop door, so the soldiers had to climb through the front small door. What he didn't tell us—but we later learned—was that our patient had escaped through the front door with minimal burns, but then reentered the vehicle to rescue his trapped comrades. He had sustained the burns in the process of single-handedly saving the lives of his fellow soldiers. Despite our efforts, he died days later. He had given his life to save others.

The next morning one of the doctors captured the sense we all shared when he murmured, "We met a hero last night."

## Shock and Awe

I often reflect on that night. While I was treating patients, my intense focus and sheer adrenaline allowed me to block out my personal response to the aftermath I witnessed time and again. But once I left the cocoon of being the medical provider, I felt bare and vulnerable. The grief that I allowed myself to feel when alone helped me avoid becoming hardened by the experience of war.

As a physician I was not allowed outside the fences of the base because of security concerns. From 30,000 feet the land looked peaceful, but I knew at times it was not, as the soldiers on the aerovac flights could attest. What I learned from talking

to my patients during those flights gave me a perspective on life beyond the fence. I found their stories harrowing and inspiring.

One particular flight to Germany stands out for me. We were transporting a group of Marines who had been injured the day before. One of them told me he had been on patrol earlier that day with his men when the shooting began. Ahead of them, next to a house, lay several downed Marines. My patient led his squad toward them. Before reaching them, he was hit twice in the leg by gunfire. He pushed on. Taking cover by the house, the soldiers tried to regroup but were pinned down by enemy fire.

During the barrage of gunfire, their backs were literally against a wall. Suddenly an enemy grenade flew through a window and landed in the midst of the squad. Without thinking, my patient dove for the grenade, shielding his men with his body. He snatched up the grenade and started to fling it, but it exploded, blowing his hand off and riddling his body with shrapnel. But his men stayed alive.

I spent hours talking with this Marine. I don't know why I was so drawn to him; perhaps it was the awe I felt in the face of such selflessness, or perhaps the admiration his men so clearly felt for him. He had fought with honor and dignity; had led his men with courage, and had put their lives above his own.

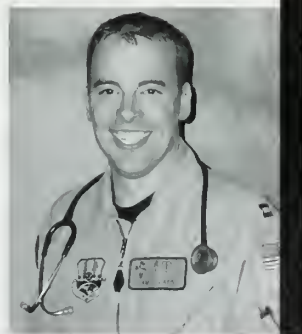
## The Free and the Brave

As the end of my deployment neared, I still got a thrill out of the combat landings and takeoffs, though I no longer felt the heart palpitations. The sights and sounds that had caught my attention early on faded, but the stories of the soldiers I cared for still burn brightly. I witnessed a dedication I have never seen before; those young men and women served with dignity, pride, and valor. They were informed and articulate. Whatever their personal beliefs about the war, they put them aside to focus on the mission at hand.

In October I asked one Marine why he had delayed seeking medical attention for two days after being shot in the arm. The Iraqi constitutional election had been scheduled for the next day, he said, and he had a job to complete. He would not let his fellow soldiers down; his arm could wait.

Serving in Iraq wasn't easy. The long days away from home were hard. I missed the holidays with my family and nearly missed the birth of my first child. But serving there, caring for our men and women in uniform, was both a privilege and honor. What I witnessed profoundly affected me. To know that in some small way I helped those who have given so much to return home safely to their loved ones was the greatest reward I could imagine. ■

*James S. Eadie '00 is vice chairman of emergency medicine at Wilford Hall Medical Center in San Antonio, Texas. One week after returning to the United States from his deployment in Iraq he was able to witness the birth of his son, Garrett.*





# PAIN

Prescribing opiates for patients with severe chronic p

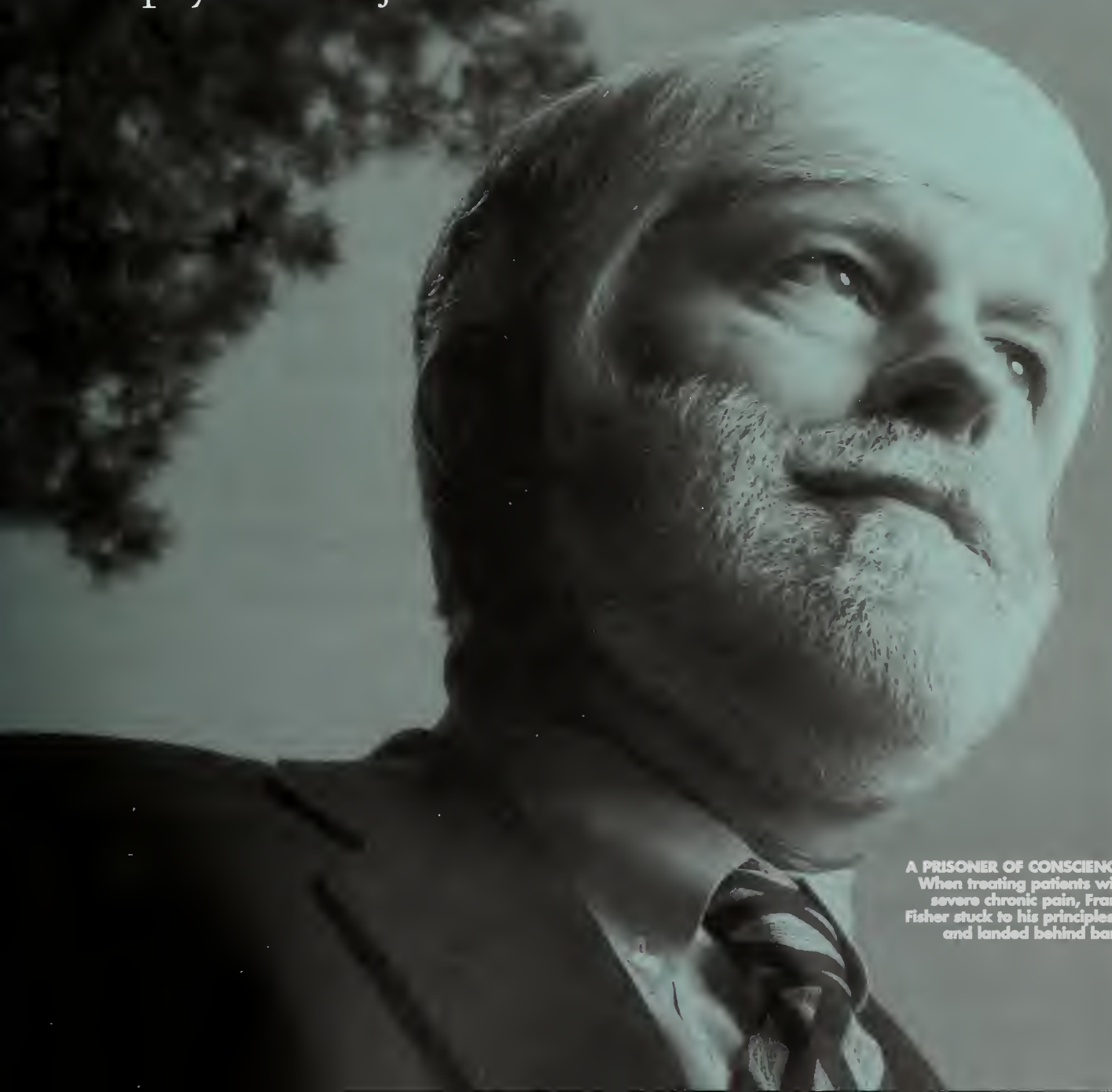
A MURDER INVESTIGATION TYPICALLY begins when a body is found; only then is the killer hunted down. The case against me was different. State officials examining financial records concluded, on the basis of the amount of opioid analgesics I prescribed, that I had flooded the

PHOTOS: DAVID MCGLYNN/PHOTOGRAPHER'S CHOICE (PILL BOTTLE); KIM KULISH/CORBIS (FISHER)



# KILLER

lands a physician in jail accused of murder. **BY FRANK B. FISHER**



**A PRISONER OF CONSCIENCE:**  
When treating patients with  
severe chronic pain, Frank  
Fisher stuck to his principles—  
and landed behind bars.

# WHEN I ASKED

the resident why he refused to prescribe opioid analgesics, he said bluntly, "If you prescribe those things, you'll lose your license."

community with dangerous drugs. Convinced I had committed murder, they went looking for bodies.

Typical of my alleged murder victims was Rebecca Mae Williams, a 37-year-old who had suffered from incurable low-back pain. After exhausting alternative treatments, I had successfully controlled her pain with 80 milligrams of OxyContin twice a day, a dose that had allowed her to enjoy an active life.

The day Becky died, she had taken her usual dose before going furniture shopping with her boyfriend. As their small truck rounded a curve, the driver's door flew open, and David, who was driving, fell out. The truck crashed into a tree, and the impact exploded my patient's heart, fractured her skull, broke her neck, and eviscerated her. Yet on the basis of an impossibly high level of oxycodone measured in a blood sample—later found to be contaminated—the county medical examiner asserted that Becky had died of a drug overdose.

A quarter century after receiving my acceptance into Harvard Medical School, I found myself sitting in a jail cell in Redding, California. I had just been arrested and charged with the murder of three patients. With my bail set at \$15 million, it didn't look like I would be getting out any time soon.

My arrest broke new ground. Before the criminal prosecution would conclude years later, I would be accused of murdering nine people, including several I had never even met. Back in 1999, no pain-treating physician had ever been accused of murder. Score another first for Harvard.

## A PAINFUL DILEMMA

I first learned about chronic pain during my third year rotation through the

orthopedic surgery service at Massachusetts General Hospital. There I spent a week with one of the surgeons. Nearly all his patients suffered from severe chronic pain, and I watched him treat them with understanding and compassion. Then, at the end of each visit, he did something shocking: He prescribed opioid analgesics. In 1976, that just wasn't done.

From that surgeon I learned that opioid analgesics have a unique power to impart quality of life to people with chronic pain. I saw that these substances are safe, effective, and non-addictive when administered properly to manage chronic pain. And I came to understand that people with chronic pain should be treated with dignity, respect, trust—and enough pain medication to allow them to lead normal lives.

The following week I spent with a knee specialist whose approach to the regulatory quagmire surrounding pain and opioid analgesics was more typical: simple avoidance. The week after that I spent in the emergency room, where an orthopedic resident warned me to be on the lookout for the "drug seeker" and demonstrated elements of the physical exam intended to expose the lies patients tell about their pain. One trick he taught me was to place my hand surreptitiously beneath the contralateral heel during the straight-leg-raising test, allowing me to measure patient effort and, presumably, integrity.

The idea of not trusting patients—and denying pain relief—introduced an adversarial element into the patient-doctor interaction, which made me uneasy. When I asked the resident why he refused to prescribe opioid analgesics, he said bluntly, "If you prescribe those things, you'll lose your license."

His statement was not entirely accurate. Years later I would lose my prac-

tice, my house, my reputation, and even my freedom. My license turned out to be the only thing I didn't lose, although the regulatory system prevented me from using it for almost seven years.

## CROSSED SIGNALS

After I finished my training, I relied on disciplinary reports to assess the state regulatory climate. In those reports, published by California's medical board, I read about the ruined careers of physicians accused of "overprescribing." Throughout the 1980s I remained convinced that the regulatory environment was as harsh as the orthopedic resident had described. Not prescribing controlled substances appeared to be the only pragmatic choice.

During the next decade, I worked in various community clinics and on American Indian reservations. The entire time I practiced medicine as if the primary imperative of medical ethics was the survival of the physician. I felt like an imposter, and I had no idea why.

Pain management, in the meantime, was undergoing a revolution. Researchers had discovered that cancer patients receiving opioid analgesics didn't often become addicted, only physically dependent. In 1995, a headline in the Medical Board of California's *Action Report* declared that the undertreatment of chronic pain was more problematic than its overtreatment. Beneath the headline was a set of guidelines for treating chronic pain with controlled substances. I believed the reign of terror directed at palliative-care physicians had finally ended.

I was mistaken. Within weeks of incorporating the medical board's guidelines into my practice, I learned I had become the target of a criminal





investigation. The board had apparently failed to inform law enforcement that times had changed.

## RELIEF EFFORTS

Other Shasta County physicians remained skeptical of the medical board's pronouncement and wanted nothing to do with pain patients taking opioids. I considered backing out of pain management but ultimately decided to continue helping people with this valuable treatment. As a result, by the end of 1997 I had acquired most of the patients in the county who suffered from severe chronic pain. Although these patients represented only 5 to 10 percent of my total patient population, I had effectively become a specialist.

Mindful of the "drug seekers" I'd been warned about, I established a screening procedure so selective that it turned away 60 percent of applicants without my even seeing them. Those accepted into the pain management program had access to a multidisciplinary treatment team that included surgeons, physical therapists, chiropractors, and an acupuncturist. Each patient had to undergo regular psycho-

logical evaluation. And acceptance into the program didn't ensure continued treatment. Patients who could not follow the program's guidelines were discharged. By the time I was arrested, some 600 former patients were on the ejected list.

Throughout this time I believed good medical record documentation would protect me. That turned out to be another mistake.

## NEW LEASES ON LIFE

Although I treated pain more aggressively than most physicians in my community, I still deliberately underprescribed opioid analgesics. My patients suffered as a result. In September 1997, though, the California legislature enacted the California Pain Patients Bill of Rights, which stated: "A physician treating a patient who suffers from severe chronic intractable pain may prescribe a dosage deemed medically necessary to relieve severe chronic intractable pain as long as the prescribing is in conformance with the provisions of the California Intractable Pain Treatment Act...."

I remember thinking as I read the bill that it was a good law and that someone should test it. Then, unwittingly, I became that someone.

After the passage of the new law, I decided I would no longer violate my obligations as a physician by systematically undertreating my patients. When I adopted the clinical strategy of titration—gradually increasing the dose to achieve optimal therapeutic effect—it never occurred to me that the attorney general would consider my decision a manifestation of criminal insanity.

I was too distracted—and elated—by the dramatic therapeutic results of my decision. Most of my patients were experiencing startling improvements in functioning. After being titrated to 400 milligrams of OxyContin per day, Penny, a wheelchair-bound patient disabled by fibromyalgia, abandoned her chair, tapered her opioid analgesics to zero, and enrolled in truck-driving school.

The remission of Penny's pain was part of a larger trend I observed among my severely affected patients. During 1998, a predictable time-dosage curve emerged. Initially, over a period of several months, opioid dosages steadily increased, as did my patients' functional gains. Then dosages and functioning plateaued. Finally, the unexpected occurred: Opioid dosages began to drop, without any urging on my part, while functioning remained optimal.

Many of my patients with chronic pain appeared to be headed for remission, if not cure. But before this experiment could play itself out, the state attorney general terminated it by having the police handcuff me at my clinic and throw me in jail.

## THE LAW WON

Physically, jail is uncomfortable. Each inmate receives a one-inch-thick mattress, just slightly softer than the con-

# ACOUSTICALLY, JAIL IS

a nightmare, with noises echoing forever until they finally embed themselves into the psyche. And psychologically, jail is hell.

crete slab it rests upon. Acoustically, jail is a nightmare, with noises echoing forever until they finally embed themselves into the psyche. And psychologically, jail is hell. The fluorescent lighting is never turned off, so day and night blend. Jail—with only two hours a week spent outdoors in a cage—allows no seasons. Worse yet is the nagging feeling of dread. I felt trapped, and there was no end in sight. I realized then I was gaining a glimpse into the psychological suffering that pain victims endure.

On the third day of my incarceration, I was unexpectedly called out of my cell to meet with a visitor. Patrick Hallinan, a highly sought-after criminal defense attorney in the Bay Area, had heard about my arrest from my brother and had driven three hours from San Francisco to see me. My case was an injustice, he said, and he was willing to represent me. For the first time, I believed everything would work out.

My preliminary hearing was the equivalent of a trial. The lead prosecutor was a career bureaucrat with a reputation for winning elder-abuse cases. His first witness was a family practitioner from a neighboring community health center who served as the primary source of the state's information about pain management. She had already articulated her formulation of the case against me for the local paper: "The majority of patients were on doses that we had never seen before. Some of the doses we thought were incompatible with life."

Soon after my attorney began his cross-examination, however, this witness admitted that she lacked even a minute's worth of training in pain management. He led her to repeat her public claim that each patient has a certain dosage of opioid analgesics that will surely kill him.

The trap had been set. Asked to read aloud several lines from the OxyContin

product literature brochure, this witness read a statement asserting what all competent pain treating physicians know—pure opioid agonists have no ceiling dose.

The trap was now sprung. Gesturing to the gallery of the courtroom, which was packed with my patients, my attorney identified the "walking dead." All very much alive, my patients began howling with laughter. The state's case had just sustained irreparable damage.

Next, the prosecutor called to the stand the founder of the pain management center at the University of California, Davis Medical Center. When asked about the quantities of OxyContin I had prescribed, the physician responded, "The absolute numbers don't bother me a bit. I have cases of my own that I can show on higher doses than any patient that Fisher ever had in all the records that I've got." The witness finished his testimony by stating that I appeared to have practiced medicine in good faith. Later, the bailiff chuckled as he escorted me to a holding cell. "Sometimes it goes well in court," he said, "but never *that* well!"

Over the next several months, as the prosecution sent an army of investigators across the county to try to unearth evidence that would prop up their faltering case, the hearing stretched out to 21 days of testimony. During that time, my defense didn't have a single bad day in court. Each witness the prosecution called dug the hole they were in deeper.

As the prosecution's case fell apart, multiple incidents of police and prosecutorial misconduct surfaced. A witness was threatened in an attempt to coerce testimony favorable to the prosecution. A conspiracy to violate Miranda rights was exposed. A witness recanted, and the prosecutor was caught knowingly eliciting false testimony from one of his investigators.

During a cross-examination on the final day of testimony, my attorney lured the government's last witness, a police investigator from the attorney general's office, into remarking upon the atmosphere in my clinic. The agent wasn't supposed to have known what went on in my clinic because, until this point, the prosecuting attorneys had withheld the fact that they had sent agents to my clinic to scam for drugs.

After the agent's admission, my attorney walked behind me, placed his hands on my shoulders, and bellowed, "And not one of them got anything, did they?" The agent just hung his head and muttered, "Not that I know of."

On July 15, 1999, the hearing finally ended. The judge dismissed all five murder charges, reducing three to manslaughter. (One of the manslaughter counts was for a young man who wasn't even my patient, but the judge told me he suspected I had *something* to do with the death.) The judge dropped my bail from \$15 million to \$50,000 and told me not to practice medicine until the criminal charges were resolved.

I'll always remember the day I got out of jail. It had been a rainy winter morning when I entered; on the day I was released the temperature reached 110 degrees. I felt I had been through a time warp.

At least 50 of my patients were waiting to greet me. After they had finished congratulating me and I had given a brief interview to the media, I rode off in my brother's car. As we pulled away, my patients jubilantly waved their canes in the air.

## A MATTER OF PRINCIPLE

Prosecuting my case had cost taxpayers at least \$5 million. Now the state was eager to cut a deal, have me confess to





some minor criminal transgression, and move on. Yet I never even considered taking a deal. I had done nothing wrong, and I wasn't going to lie and say I had. In addition, I felt the integrity of medical practice in general was at stake. What had been done to me was an exaggerated version of what is still happening to well-intentioned physicians across the country. I paid for my decision by being kept out of practice for nearly seven years.

Fortunately, I didn't have any dependents. I moved in with my parents and went to work on winning my case. My lawyer turned his conference room over to me to use as a war room. Over the next few years, I became a fixture in his office, gathering and organizing more than 300,000 pages of materials to bolster my case. Occasionally he would run me out of his conference room. "Frank, you've got to get out of here," he'd say. "I have a paying client coming in."

On the morning of January 14, 2003, almost four years after my arrest, my trial began. The judge opened the proceedings by asking the prosecuting attorneys whether they were ready. They weren't.

That morning, after four years of attempting to bluff me into a deal, the

state finally admitted it didn't have the evidence necessary to proceed. The judge dismissed all the remaining charges, and the trial was over before nine o'clock the first morning.

But my troubles weren't over. The state attorney general robbed me of yet another year and a half of my professional life by prosecuting me for an alleged \$150 upcoding theft—or billing fraud—from Medi-Cal, California's Medicaid agency. All the while prosecutors in his office kept assuring the media they would soon refile the murder case against me. They never did.

A week after the upcoding case went to trial in May 2004, the jurors retired to deliberate. Within minutes, uproarious laughter could be heard coming from the jury room. The jurors soon emerged and acquitted me on all counts. One juror later told a reporter he believed the whole thing had been a witch hunt.

By the time of my acquittal on May 18, 2004, I had faced criminal charges for a total of six years, to the day. The criminal phase of my ordeal was over, but the state attorney general had one more gambit: to go after me through the state medical board. He failed there as well,

but not before robbing me of another two years of practice.

Three wrongful-death malpractice lawsuits had spun off from the original murder charges, and I now had to contend with them. All three were dismissed before trial, and the court ordered two of the three plaintiffs to pay part of my legal expenses. Collecting on these judgments is unlikely, but the symbolic victory remains sweet.

## THE DEEP END

Throughout my ordeal I had kept in touch with many of my patients. When I visited them in their homes I witnessed how the disease of chronic pain devastates their lives. I also learned the strategies they adopt for simple survival. Many physicians believe their patients take pain medications as prescribed. But I found that patients who are undertreated tend to bunch their medications into a single dose to achieve the threshold effect that allows them to function. During the resulting window of opportunity, they accomplish essential tasks, such as shopping, paying bills, and, if the pain has not yet taken over again, a little housecleaning or socializing. In contrast, when patients receive an adequate supply of medication, they can enjoy all activities all the time, a freedom the rest of us take for granted.

While spending time with patients, I learned that freedom is not the only advantage that opioid analgesics offer those in severe pain. These medications also enhance survival. In the end stages of chronic pain disease, massive weight gain is typical. This gain is attributable to inactivity, as it hurts even to move, and likely to high levels of stress hormones as well. This weight gain can be abrupt—



and extreme. One of my patients gained more than 100 pounds in less than a year. People who had known her for decades did not recognize her.

As the disease progresses, metabolic syndrome often develops. Blood pressure soars and type 2 diabetes emerges. Because chronic pain kills slowly, death is attributed to these secondary disease processes, rather than to uncontrolled pain.

A more abrupt lethal outcome of chronic pain is suicide. Following my arrest, one patient became so distraught she drove her car onto a nearby railroad track and waited for the train.

Another patient, Jeff, was a 32-year-old single father who suffered from chronic pain following a motorcycle accident. Steel plates held the bones of one leg in place, and with each step he took the bones ground together. His life became just barely tolerable with 2,400 mil-

ligrams of oxycodone a day, a dosage that allowed him some mobility while his orthopedic surgeon fought to save the leg.

After I was arrested, no physician in the county would prescribe Jeff opioid analgesics in quantities sufficient to allow him any quality of life. In desperation, he allowed his orthopedic surgeon to amputate the damaged leg, but his pain syndrome only progressed. He decided to solve his dilemma by committing suicide, leaving a teenage son to fend for himself.

## SHARING THE PAIN

Recently, it has become popular to attribute the pain crisis to a war waged by law enforcement against physicians. The Controlled Substances Act of 1970 contained language intended to establish a safe harbor within which the

physician could legally participate in the distribution of controlled substances as "an individual practitioner acting in the usual course of his professional practice." The authors of this act were mistaken in assuming that distinguishing between what is medical practice and what isn't would be obvious: When the police see drugs and money changing hands, they see a crime in progress.

Every attempt to resolve the problem of undertreated pain has been, in essence, an attempt to draw a bright line between legal medical drug distribution and criminal misconduct. These attempts are fundamentally misguided because they focus on physician *conduct*, while criminal drug distribution on the part of a physician is primarily a matter of *intent*. At the end of the day, illegal drug distribution by physicians is a thought crime.



# FOLLOWING MY ARREST,

one patient became so distraught she drove her car onto a nearby railroad track and waited for the train.

Each year, many physicians lose their licenses and some receive long prison sentences. William Hurwitz has drawn a 25-year sentence in federal prison, for example, while James Graves continues to serve a 63 year sentence in Florida.

Yet most of the victims of this aspect of the war on drugs are patients, not physicians. Patients' lives are destroyed by the millions, and the costs to society are enormous. Chronic pain, a leading cause of adult disability in the United States, costs the economy \$100 billion a year in lost productivity. While opioid analgesics are categorically safe when taken as prescribed, 100,000 arthritis sufferers are hospitalized, and 16,500 bleed to death each year from gastric ulcers caused by nonsteroidal anti-inflammatory drugs.

Physicians have the power to control chronic pain and for the most part choose not to exercise it, either as individuals or as a profession. If too many doctors choose not to control pain, the ethics of the profession as a whole are compromised, without a single physician having behaved unethically.

The central question that society faces in respect to the pain crisis is whether opioid prohibition and the attendant war on drugs can be rehabilitated through incremental symptomatic reform, or if a new regulatory paradigm will be necessary. Two schools of thought have arisen around this controversy.

One argues that a combination of education and legislation will produce a kinder, gentler world in which pain patients will one day be spared the ravages of the war on drugs. The second school of thought views opioid prohibition as a fundamental flaw in social policy, one that precludes access to pain care. Attempts to shore up the safe harbor for medical prescribing are regarded as exercises in futility. The underlying

concern is that despite the intent of the Controlled Substances Act to create a safe harbor for prescribing, the act makes opioids both legal and illegal, ensuring that criminal prosecutions of well-intentioned physicians, however rare, will inevitably occur.

This second school of thought understands that physicians are both risk sensitive and risk averse. If an ironclad guarantee does not accompany the offer of a safe harbor, the mere possibility of criminal prosecution will chill prescribing, no matter how much education takes place or what official assurances are offered.

Many fear that ending opioid prohibition will result in social chaos. This concern overlooks the fact that opioid analgesics are profoundly dysregulated, and that chaos already reigns in the pain management realm. The centerpiece of the current regulatory paradigm is a concept called "the principle of balance." This principle requires controlled-substance-prescribing physicians to maintain a balance imagined to exist between the needs of their patients and the government's perceived obligation to protect willful substance abusers from the adverse consequences of their own reckless behavior.

This approach to balance has several problems. First, it has recently come to light that most pharmaceuticals diverted into the illicit market come not through physicians' offices, but through such sources as pharmacy robberies. One of my alleged murder victims was a man whose niece had broken into the house of one of my patients, stolen some OxyContin pills, and given the pills to her uncle in exchange for a night's lodging. The man died after injecting a mixture of the pills with an overdose of an antipsychotic medication.

Second is a problem with medical ethics. When physicians are compelled to serve the interests of the government

rather than those of their patients, history teaches us that the outcome is never good. In fact, it can be so bad that it seems reasonable to suggest that the health of a society can be measured by the extent to which it allows the patient-doctor relationship to serve the interests of the patient exclusively.

## STRONG MEDICINE

Now, seven years after my arrest, the criminal prosecutions and wrongful-death lawsuits I endured have all been resolved in my favor. My no-admissions settlement with the state medical board has finally cleared the way for my return to practice. A former patient offered to provide me with a building in which to set up my next community health center, but death threats cancelled our plans. I do not yet know what direction my next run at clinical practice will take. While I do know I won't be prescribing controlled substances, I will be working to resolve the flaws in social policy that drive the pain crisis, with the hope that someday I will once again be able to treat patients with chronic pain effectively.

I now find myself in demand as an expert witness and analyst in cases against other physicians accused of overprescribing opioid analgesics. I also donate time as a consultant to the Pain Relief Network, an advocacy organization for people with chronic pain and physicians who are persecuted for trying to help them. But most important, I no longer feel like an imposter within the medical profession. I cured that malady with opioids, not by taking them, but by prescribing them for my patients. ■

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They're fearless, they're mighty, they're...

# THE INCREDIBLE

By VICTORIA M<sup>C</sup>EVOY

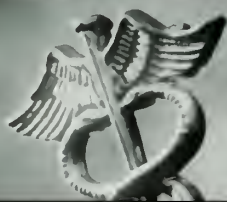
The Germinators! Docs of Steel! Faster than a speeding bullet, yet with no stone left unturned. Paperwork? Bring it on! There is no problem too obscure, no ailment we cannot Google. As we draw our capes around us and prepare to plunge into the next pit of human suffering, we pause only to check schedules, to ensure that productivity

**PRIMARY CARE PHYSICIANS FIND THEMSELVES MAKING SUPERHUMAN**



BLES

EFFORTS TO KEEP PACE WITH A JOB THAT OFTEN SEEMS IMPOSSIBLE.



remains on target. Juggling BlackBerries, cell phones, electronic medical records, notes from specialists, lab results, patient phone calls, referrals, radiology requests, beepers, handheld formularies, patient-satisfaction surveys, color-coded preferred-drug charts from insurers, and quality report cards from HMOs, we forge on, as our patients wait, shivering expectantly in revealing paper gowns and clutching their lists of questions and brown bags bulging with medications.

We used to be called internists, primary care physicians, pediatricians, med-peds physicians, and family doctors, but the superhuman demands of our specialty have either morphed us into steely-eyed combatants or reduced us to blithering, overwhelmed, white-coated globs of jelly. We now practice triage medicine—surrendering time-honored bedside roles to hospitalists; slicing face time with patients; retreating to administrative roles; appending MBA, Esq., or MPH to our names to shield us from the line of fire; and even—yes—choosing early retirement.

Remember Marcus Welby, the kindly, graying, sage family physician who gracefully segued from a round of genteel office encounters—ear infection in a little girl, chest pain in an elderly neighbor—to family man and unruffled savant? I don't remember him counting review-of-system questions on his documented notes so his encounter forms met coding requirements and avoided fraud charges. And how about the Norman Rockwell print hanging above my desk that depicts a kindly family doctor holding his stethoscope to a doll's chest? I wonder if the Joint Commission on Accreditation of Healthcare Organizations told him—as it informed me—that such a doll had to be sterilized after each patient encounter?

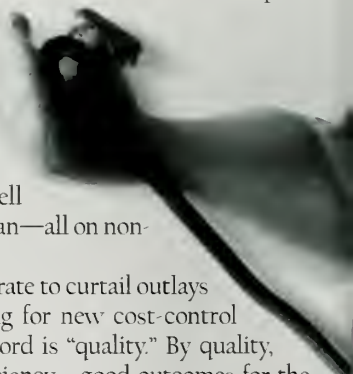
While a hardy core of us held on to the notion of family health and persevered as family physicians and med-peds physicians, the family doctor evolved into the more discrete specialties of internal medicine and pediatrics. In the 1960s, as the era of capitation emerged, the concept of primary care medicine, in which all patients needed a frontline physician, was born. This physician, the theory went, would receive a monthly fee for managing the patient's care, encouraging preventive medicine, and serving as a gatekeeper to limit access to specialty care in hopes of controlling escalating health care costs.

This flawed model exploded as patients began viewing primary care physicians as *gatekeepers* who withheld access to orthopedists, plastic surgeons, and physical therapists. Alphabet stew—PPOs, HMOs, IPAs—ensued as insurers developed iterations of the managed-care model in their efforts to rein in costs. This approach theoretically put primary care physicians in the catbird seat because they controlled the flow of referrals, office visits, medications, and that most golden of rings—the MRI!

This so-called power position did little to promote friendly patient-doctor relationships and soon degenerated into a tug of war between patient and doctor, HMO and doctor, and administrator and doctor as hours were spent lobbying for referrals, auditing financials, appealing HMO decisions, and refereeing medication requests. Responsibility for the extra layer of bureaucracy fell to the primary care physician—all on non-reimbursable time.

Today, employers, desperate to curtail outlays for health care, are looking for new cost-control methods. The new buzzword is “quality.” By quality, most employers mean efficiency—good outcomes for the least cost, a reasonable concept. Since quality is often an elusive measure—like a famous definition of pornography, you know it when you see it—the push to define and quantify quality has mutated into an awkward hammer. The current quality bandwagon has produced mounds of paper and human currency to develop reasonable outcome metrics—HbA(1c) in diabetics, use of controller medicines by chronic asthmatics, colorectal screening, mammography rates.

Once again, the burden of ensuring these quality measures falls to primary care physicians, who are showered with patient lists showing “discrepancies.” The problem of dealing with the “non-compliant” patient—the Joe Smith who has no intention of drinking a liter of salt water so he can have a four-foot rod inserted in the lower part of his anatomy to screen for errant cells, or the Mary Jones, an elderly diabetic who just lost her spouse and cannot bring herself to measure her HbA(1c)





**THE SUPERHUMAN DEMANDS OF OUR SPECIALTY HAVE MORPHED US  
INTO STEELY-EYED COMBATANTS OR WHITE-COATED GLOBS OF JELLY.**



## **WE NEED TO REDEFINE THE PRIMARY CARE MANDATE WHILE PRESERVING THE SOUL OF THE PATIENT-DOCTOR RELATIONSHIP.**

compulsively so her physician's report card reads well—also falls to the primary care doctor.

During the past five years at HMS, the absolute numbers of medical students selecting primary care residencies has not changed significantly. In 2000, 43 students chose internal medicine residencies, 18 selected pediatrics, and 5 chose family practice. Five years later, 42 chose internal medicine, 15 selected pediatrics, 2 opted for med peds, and 5 chose family medicine.

Disillusionment seems to set in later. More and more primary care residents opt for alternatives to practice while primary care physicians are cutting back on hours. The number of primary care physicians practicing full time at Massachusetts General Hospital has declined dramatically. Increases in paperwork, productivity requirements, patient demands, pressures from payers, and unrealistic expectations by insurers and standard-bearers for quality are leading to early burnout, a lack of job satisfaction, and physical exhaustion. The inequities in a reimbursement system that rewards procedures and penalizes time spent talking through problems with patients have added to the sense of frustration. The desire for a more balanced, healthy lifestyle has driven some of the changes seen in primary care practice patterns. No doubt all physicians today experience many of these ills, and many primary care physicians are satisfied. There is, however, a sense that the job as prescribed is no longer doable.

### **With X-Ray Vision**

Let's examine what should happen in a physical for a 17-year-old girl. Height, weight, blood pressure, and vision must all be checked and entered into the electronic medical record. Pleasantries are exchanged and inquiries are made about school, summer plans, and life in general. These are not idle exchanges; the girl's responses are all data points to be entered in the record. Grades, extracurricular interests, jobs are all "social" entries. Changes in the family—who lives at home, whether there are smokers or guns in the house, any domestic violence or parental issues that have arisen—are all data points.

How about family medical problems—Aunt Tillie's breast cancer, brother Joe's juvenile-onset diabetes, Grandpa's heart disease? Does the patient have any med-

ical complaints? Any flare-ups with asthma? What about allergies? All these issues need to be reviewed and the responses entered, edited, or ignored. Don't forget the medication list—any changes, new meds, incorrect doses. You're on Prozac? Who put you on it, and when do you see psych? Or the interval history—a broken finger during the winter while playing volleyball. Are you suffering a cold and earache now? Fever? Other symptoms? Time for the flowsheet—height, weight, basal metabolic index. What about diet, exercise levels, amount of sleep?

Now we get to the review of systems. Do you have headaches? Trouble seeing? Chest pain? Joint aches? Yes to all these questions for many patients, and each "yes" leads to a cascade of further questions. Next is menstrual history, followed by sexual history, again, in an open-ended, non-threatening manner in which "yes" answers lead to questions about unprotected sex and inquiries about birth control—but only after a discussion about confidentiality.

Then it's time for the physical exam with all its 800 parts, if done by the book and documented meticulously in the electronic medical record. Did you check the patient's gait? Insufflate air to move the tympanic membranes? Do the pelvic—and now you're running 30 minutes behind and will lose more time because the patient and table aren't prepared. Or perhaps you have the patient come back and risk missing a pregnancy in its early stages or the opportunity to prescribe treatment for a sexually transmitted infection.

Now you must set priorities—did you address the earache? Discuss the weight problem? Prescribe diet and exercise effectively? Discuss safe sex? And what about domestic abuse issues? Use of seat belt? Bike helmet? Is dental care regularly administered? Sun block? Are breast self-exams routinely performed?

Now it's time to complete the eight-page school form. A meningitis vaccine is needed but the HMO won't cover it; how much does it cost? Give amoxicillin for the ear infection; prescribe a birth control pill (oops—review possible side effects, any history of clotting disorders in the family, any tendency toward migraines); explain how to take the pill. Screen for chlamydia and gonorrhea; give a handout on exercise; draw blood for the tests the school requires, sign the form in eight places—and finally: "Mother wants to talk to you after my appointment."





As ridiculous as this scenario seems, it is, in fact, the prescribed work for a 17-year-old female preventive care visit. Imagine the requirements for a visit by a 70-year-old man with congestive heart failure, diabetes, and depression. A visit to a specialist, on the other hand, tends to focus on a single problem—mole checks, wart removal, gastrointestinal bleeding, knee pain, frequent urination. While the problem may be complex, there is a certain luxury in focusing on a single issue. The primary care doctor may be asked to address knee pain, headaches, warts, and palpitations all in the course of a 20 minute physical.

### In a Single Bound

Added to the primary care dilemma is the issue of reimbursement. There are many disincentives to fulfilling the comprehensive-care mandate. For example, a dermatologist presented with a simple request to remove a wart can bill as a consultant (referred by the primary care physician), earn financial credit for the diagnosis, and receive reimbursement for a simple liquid-nitrogen-freezing procedure. The primary care physician, by comparison, may be reimbursed for the procedure but not the diagnosis. And then there is the gynecology conundrum. Ask any internist how to bill for a pelvic exam, Pap test, or contraception counseling, and you will get as many answers as doctors asked. Immerse the gynecology piece into the rest of the preventive exam, and the reimbursement is negligible.

Another political issue the Medicare gurus who set the compensation guidelines have not addressed is the disproportionate financial rewards of procedure medicine versus cognitive medicine. When Medicare pays more for procedures, patients get more procedures. To spend time counseling patients on ways to lower their cholesterol, while probably more cost effective in the long run than cardiac catheterization, requires you to file intricate documentation to get any reimbursement—and carries the threat of an audit if you document anything incorrectly.

How can we solve the primary care crisis? The model needs to change. The job is impossible to perform well as currently prescribed. Perhaps we need to reconsider preventive care. One could argue that seatbelts, bike helmets, sun block, safe sex, and screening mammography are pub-

lic health issues that can be dealt with in mass media campaigns, thereby saving precious office visit time for counseling and dealing with illness. Primary care certainly has a mandate for prevention but the annual-visit and sick-visit models need to be better focused so that optimal outcomes can be achieved without sacrificing the interpersonal relationships with patients that primary care doctors cherish.

Reimbursement needs to reflect effort and time. With one out of six dollars in the United States spent on health care, cognitive care can be more cost effective for the U.S. economy than procedure-driven specialty visits. Getting a patient to stop smoking or lose weight could be vastly more economical than administering one bronchoscopy to a smoking patient with lung cancer.

We must get away from the laundry list of imperatives that drive primary care medicine and return to addressing problems in a focused manner. The physician and patient should be allowed to set priorities in the patient's health care needs and to tackle them in a strategic fashion. Obviously many primary care physicians do just that to survive and provide good care.

The dissonance between what is expected in the exam room and what is humanly possible could be eased by thoughtful reconsideration of the primary care mandate. Primary care physicians cannot be expected to focus on a list of societal ills that range from domestic violence to gun control during a 20-minute office visit. We need to be imaginative and inclusive as we seek to redefine the primary care mandate while preserving the soul of the patient-doctor relationship. The best way to achieve quality is to strive to deliver the patient-care experience each of us would hope to receive the day our own health is in jeopardy.

When physicians are patients, we don't want a cape-wearing multitasker who is riveted to the computer screen during our health care visit. We just want to tell our stories to a willing and knowledgeable listener, someone capable of guiding us through an all-too-complex health care system whose challenges sometimes seem to require superhuman strength to surmount. ■

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In the mid-nineteenth century, Rainsford Island was not for the faint of heart. Populated principally by those shunted from Boston by the hard circumstance of poverty, delinquency, or illness, the 11-acre dot of rock and meadow in Quincy Bay afforded exceptional views of sea and land, but only to those with the strength and time to savor them. It was to this island of quarantine that David Williams Cheever traveled. Fresh from Harvard Medical School's Class of 1858, Cheever had taken a post as "house pupil" in the island's state hospital. A mere seven years after sailing off on his grand tour of Europe, Cheever was setting out from Boston's wharf for a far-from-grand tour of Rainsford Island.



# A CUT

Surgical pioneer David Williams Cheever operating theater but also to hospital care





# ABOVE

brought passion and innovation not only to the  
and medical education. BY ERIC G. HALVORSON

“[Harvard medical students are] mentally smaller; a low-down class; ill prepared; re-inforced by the lowest quacks. Any fool could attend the lectures; and some fools could get a Degree.”

The 27-year old was beginning a one-year assignment that likely helped etch into his soul a passion for medicine as indelible as the words island inhabitants had chiseled in the rocks of Rainsford. If, upon landing, Cheever deciphered the Rosettas left by previous inhabitants, he would have been reminded, in Latin, that “God care for us all, for we are coming,” and perhaps smiled grimly at the epitaph: “Nearby these gray rocks / enclosed in a box / lies Hatter Cox / who died of smallpox.”

Whatever thoughts such stony messages may have conjured, this descendent of Puritans remained undeterred. Turning his face to the island’s hospital, Cheever would have moved forward, crunching his way up the gravel path toward what would become a remarkable career in surgical medicine.

When Cheever set out to serve people rendered voiceless by their isolation, he did so with great vigor and purpose. A dozen years after that experience on Rainsford Island, Cheever shared with HMS students graduating in 1871 what he considered to be the underpinnings of a career in medicine. In a lecture titled “How to Study Medicine,” Cheever said: “If you seek for wealth, you have mistaken your avocation. There must be... something higher. That something is a love of your profession; a passion for science for its own sake; a broad humanity which covers all the sick with a mantle of charity. Never lose sight of that motive, for if it once takes flight, your profession is reduced to a trade, and there is absolutely nothing left.”

### SONS AND FATHERS

This belief in service was part of his family’s history. In 1637, Ezekiel Cheever, a Puritan from Canterbury, England, emigrated to take a post as the first master of the Boston Latin School. Cheever’s grandfather, Abijah Cheever, was a surgeon who served aboard the privateer *Tartar* during the Revolution-

ary War. And Cheever’s father, Charles Augustus, also a surgeon, established a practice in Portsmouth, New Hampshire, where he lived with his wife, Adeline. It was there, on November 30, 1831, that David Williams Cheever was born. Much was expected of him, not only because of his proud lineage, but also because he was the only one of his parents’ four children to survive infancy. As a child, he was privately tutored; as a young man, he entered Harvard College, graduating in 1852. Following his 18-month tour of Europe, he began medical studies at HMS in 1855 and graduated three years later.

In those days, an internship at Massachusetts General Hospital was possible only through social and family influence. Lacking both, Cheever applied for the position at the state hospital on Rainsford Island. There, under spartan conditions, he cared for patients with infectious diseases and functioned as his own apothecary. It was a nontraditional introduction to the profession, something he admitted during his retirement dinner in 1907 when he said: “I never had a surgical house officer’s training.”

During the Civil War, Cheever served as a lieutenant in the Massachusetts Volunteer Militia. Assigned as a military surgeon in Judiciary Square Hospital in Washington, DC, Cheever moved his wife, Anna, and their family to the capital. There they lost the first of their six children, David, Jr., who died at age three.

Years later, the Cheevers lost another child, a daughter, this time in a place that had once brought happiness. Cheever and his family summered in Cohasset on the South Shore of Massachusetts. Late one afternoon, Cheever arrived by train after work to find a crowd gathered on the beach around the body of a girl who had drowned. Much to his horror, he recognized her as one of his daughters. His attempts to revive her were futile. Thereafter the family avoided the shore.

In a more joyful chapter of family life, Cheever’s second son, also David, Jr., Class of 1901, followed in his father’s footsteps to become a member of the surgical staff at Boston City Hospital (BCH). In 1913, Harvey Cushing hired David, Jr., as a surgeon at the newly opened Peter Bent Brigham Hospital, where the younger Cheever stayed until retiring in 1939.

### ONE STEP FORWARD

Following his stint on Rainsford Island, Cheever had the good fortune to secure the post at HMS of demonstrator in anatomy for Oliver Wendell Holmes, Class of 1836. Cheever held the position for eight years and, when the doors of BCH opened in 1864, he entered with an appointment as visiting surgeon. He was then 32, the youngest member of the surgical staff.

Cheever worked at BCH for 43 years, playing a pivotal role in the development of that institution. He established surgical clinics and Sunday teaching conferences and fostered the institution of public operating days; this tradition, which began in Europe and migrated to the United States, gave rise to the concept of the “operating theater.” When it came to deciding whether to allow women to attend these public operating days—or to be admitted to HMS—Cheever remained a man of his time and opposed both notions. At retirement he admitted that he had been “perhaps bigoted” and a “fossil.”

Cheever enjoyed the administrative duties of his hospital post, including the need to attend staff meetings, and was active in hospital politics. While at BCH, he introduced a change in the way deaths were reported. Prompted by the discovery that the mysterious death of a friend had been covered up by a paid-off coroner, Cheever replaced what he described as the “disgraceful” scheme of using private coroners with the current system of medical examiners. During his tenure at the city hospital, Cheever continued to





**AWAY FROM IT ALL** The State Hospital on Rainsford Island, depicted here circa 1840 by the English landscapist Robert Salmon, was busy during the nearly two centuries that the island served as a quarantine center for people sailing into Boston Harbor. Physicians such as David Williams Cheever, who spent a year as a house pupil in the hospital, attended to those made ill by such diseases as smallpox or by confinement during long sea voyages.

cultivate his ties to HMS. This dual allegiance helped forge an inter-institutional relationship that would endure for almost a century.

At HMS, Cheever held a clinical appointment at Massachusetts General Hospital. In 1868, he was appointed adjunct professor of clinical surgery. He became professor of clinical surgery in 1875 and, seven years later, succeeded Henry J. Bigelow, Class of 1837, as the School's chair in surgery. Cheever became professor of surgery emeritus in 1893 and broke new ground by establishing a scholarship for deserving first-year students. The Cheever Scholarship continues to this day.

Cheever taught at HMS for 33 years. Although a devoted academician and teacher, his assessment of Harvard medical students, offered to those attending his retirement dinner, was none too sympathetic. "[They are] mentally smaller; a low-down class; ill prepared; re-inforced by the lowest quacks of Howard Street

and the North End. Any fool could attend the lectures; and some fools could get a Degree."

Perhaps more than three decades of teaching had jaded the man. Or perhaps it was that changes Cheever believed were needed immediately—raising medical school admission standards and improving the curriculum—were slow in coming. Not until 1892, after much prodding by Harvard President Charles Eliot, did the School require four years of course work and reorganize its curriculum into what Cheever had proposed as an "efficient graded course of instruction and examination." It took another eight years for an undergraduate degree to become a requirement for admission to the School.

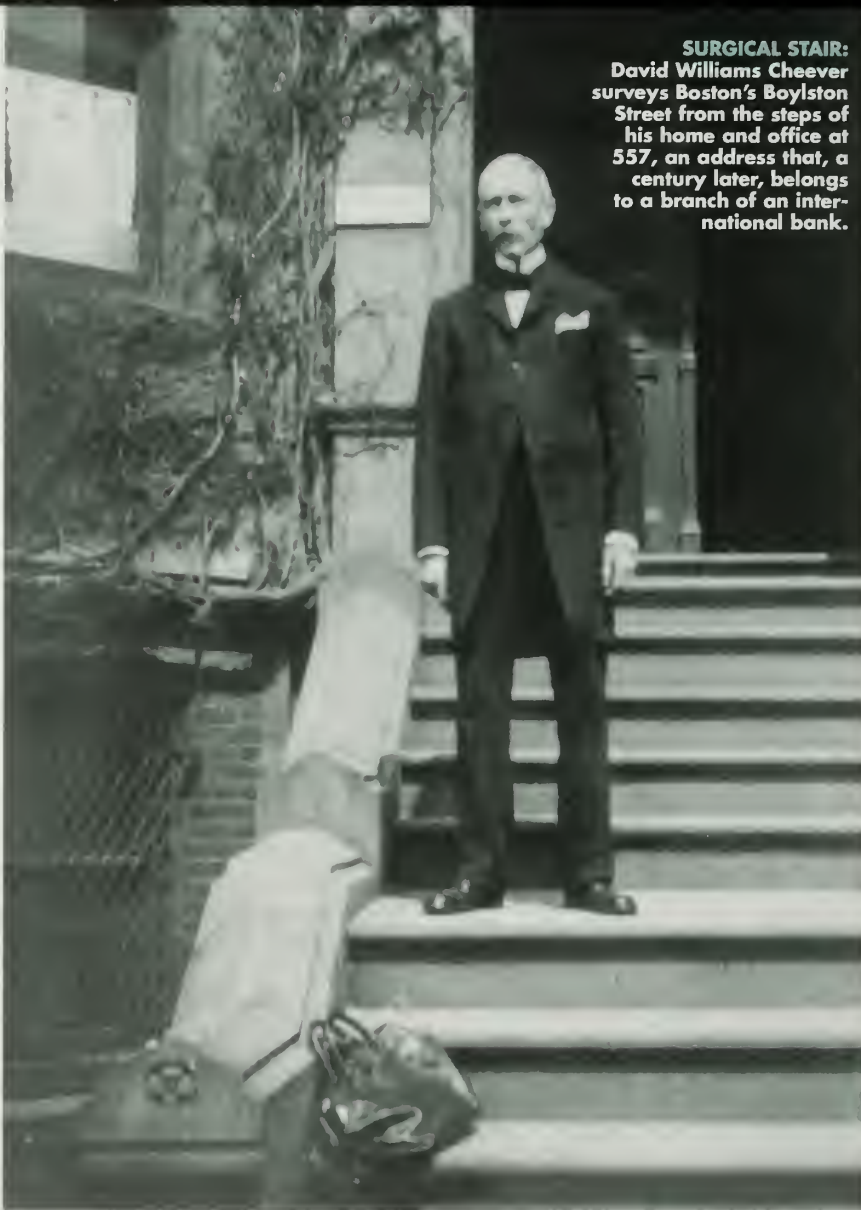
Cheever regarded his hospital duties as deserving of more time than his private practice. In his day, doctors received no pay for their services at hospitals, which operated as charity institutions for the poor. Physicians

depended upon their private practices for their livelihoods. This changed when some wealthier patients, realizing the hospitals would provide them for free the same care they were paying their private physicians to deliver, began walking through hospital doors. Cheever, when reflecting on this situation in his retirement speech, showed a leaning toward a fee-for-service payment system: "To adjust the very delicate balance between our duty and our rights, between the abuse of our charity and our right to earn our living, is now a pressing and a daily problem."

#### TIN LIZZIE

Cheever contributed frequently to medical journals and in 1894 published his textbook *Lectures on Surgery*. He edited several journals, including the *Boston Medical and Surgical Journal*, the predecessor of the *New England Journal of Medicine*. He also was an active member of the Harvard community, serving as presi-

The spirit with which he encouraged and supported the  
 you can keep alive the sacred flame of this early passion  
 so long shall you be warmed, sustained, and upheld amid



**SURGICAL STAIR:**  
 David Williams Cheever  
 surveys Boston's Boylston  
 Street from the steps of  
 his home and office at  
 557, an address that, a  
 century later, belongs  
 to a branch of an inter-  
 national bank.

PHOTO COURTESY OF DANIEL CHEEVER

dent of the Harvard Medical Alumni Association and as an overseer of Harvard University.

In the political arena, Cheever championed the right of the Massachusetts Medical Society to "license practitioners of medicine," a precursor to today's medical licensure system, but opposed the admission of "homeopaths and osteopaths" into professional medical circles.

Cheever also had a keen interest in medical-legal affairs and often served as an expert witness in court. In 1893, he testified as the government's medical expert during the famous Lizzie Borden murder trial.

Borden, a young woman from Fall River, Massachusetts, was accused of hacking her father and stepmother to death with a hatchet. It was a captivating drama reported extensively by local

newspapers. Both the prosecution and defense used Cheever's expertise as a surgeon to explore the evidence: the size and type of blade that made the cuts into the skulls of Andrew and Abby Borden; the likelihood that blood would have splattered the killer; and the physical characteristics needed to strike such a series of blows.

Inserting tin pieces of different depths into the cuts in the skulls, Cheever showed the courtroom that the blade on the instrument used to kill the Borden would have had a depth of three and one-half inches. It would, he testified, be a blade consistent with a hatchet, like the hatchet blade in evidence. Furthermore, Cheever said, "In my opinion, the wounds could have been made by the use of an ordinary hatchet in the hands of a woman of ordinary strength." When later asked whether the killer would have been splattered with blood, Cheever answered, "I think they would; I think he would—or she." The jury remained doubtful, however, and after the nearly three weeks of testimony, acquitted Lizzie Borden on all counts.

#### A NOSE FOR THE NEWS

Known as an exacting, deliberate, and bold surgeon, Cheever took great care with his dressings. He devoted time and attention to his postoperative patients and to ward and private patients alike. Cheever was the first physician in the United States to perform an esophagotomy and one of the first in this country to conduct an exploratory procedure for bowel obstruction, the latter in 1871. In all, he reported more than 1,200 major cases, with an 85-percent recovery rate—a remarkable record at that time.

Cheever's academic and organizational contributions were well recognized in his lifetime. But, today, he also deserves to be remembered as the first to perform an operation now known as the Le Fort I osteotomy.



profession lives on, embodied in his words: "As long as which first called you to embrace the medical profession, disappointment, unjust treatment or reverses."

The procedure evolved from others practiced by German and French surgeons for the resection of "fibrous nasopharyngeal polypi." Today these lesions are termed juvenile angiofibromas, benign tumors that typically arise in the posterior nasal passages of younger males and are prone to bleeding and recurrence. The Europeans modified the operation to eliminate the disfiguring procedure of removing the maxillary sinus, which left the patient with a hollow, sunken cheek.

Cheever's operation advanced the procedure further by allowing the surgeon to open both sides of the nasal cavity, creating the wider access needed for the careful removal of larger tumors. For a short while this approach was known as Cheever's "double operation." This technique later gained popularity as a means for moving the middle third of the facial skeleton forward or backward and was used to improve dental alignment, correct congenital anomalies, and widen narrowed airways.

In his privately printed *Surgical Cases* from 1869, Cheever described the double operation in his presentation of a case involving a 41-year old farmer with an 11-year history of an intermittently bleeding growth in the back of his nasal passage. Examination showed his nose to be occluded and the palate displaced by a tumor the size of "a pullet's egg." The patient had difficulty swallowing, breathing, and speaking. Cheever had mastered the procedure used in Europe, which involved making a cut on one side to temporarily displace the cheekbone for removal of a smaller, right-sided tumor. For this case, however, Cheever needed more room to operate. With a small surgical saw, he cut across both maxillary sinuses and dropped the patient's hard palate downward, allowing a full visualization of the previously inaccessible posterior nasal passages. Although Cheever was able to remove the tumor, the patient died five days

later, likely because of bleeding. Cheever, however, upheld the principle of the technique in his papers on the case: "...we cannot but think that there is nothing in the operation itself which should render it a fatal one."

#### OUR MAN ABROAD

Cheever believed his bilateral procedure was novel but needed proof. That proof came from an unexpected quarter. John Collins ("Coll") Warren, from the long and respected line of Harvard surgeons, knew Cheever from having assisted him during his work in the anatomy laboratory. While on his post-graduation tour of European medical centers, Warren, Class of 1866, heard of Cheever's double operation and became interested in learning whether something similar was being practiced in Europe.

Warren wrote the renowned German surgeon Bernhard von Langenbeck, who was credited with being the first to surgically cut the maxilla, albeit using a technique that differed from Cheever's and the Le Fort procedure used today. Langenbeck replied that, to his knowledge, such a bilateral procedure hadn't been performed in Germany or elsewhere in Europe. Warren shared this response with Cheever, along with similar ones from French surgeons of whom he had asked the same question, thus lending support to the idea that Cheever's procedure was indeed a first.

In an 1870 paper in *First Medical and Surgical Report of the Boston City Hospital*, Cheever reported the procedure. Unfortunately, although the procedure was recognized as an important innovation, its safety was still debatable. The death of Cheever's patient left the matter unsettled for another eight years until the procedure was successfully carried out, and reported, by another surgeon. By the late 1800s, journal articles and several textbooks associated Cheever's name with the procedure. Over time, however, the technique became obso-

lete, supplanted by methods that diagnosed tumors earlier and new, less invasive techniques.

#### A LEGACY SEWN UP

An active, healthy man for most of his 84 years, Cheever enjoyed walking, rowing, fishing, horses, music, travel, and sculpture. His spirit of innovation extended beyond his professional life; at age 60, he stopped eating meat, a change that apparently resolved the dyspepsia that had troubled him. An early advocate of cremation, Cheever helped establish a crematory at Mount Auburn Cemetery in Cambridge, Massachusetts. When he died in December 1915, his remains were interred there.

Cheever is remembered by many surgeons who trained in Boston for both his inventiveness in the field and his support of new talent in the discipline. In 1963, his descendants ensured his continued role in the preparation of future surgeons by establishing the Cheever Professorship of Surgery. The late William McDermott, Jr. '42 was the first Cheever Professor, and Sidney Levitsky at Beth Israel Deaconess Medical Center is its incumbent.

Unfortunately, the Cheever Amphitheatre at BCH was razed during renovations over the past decade; a portrait of Cheever that once graced its entrance now sits in storage. Although physical reminders of Cheever are difficult to find these days, the spirit with which he encouraged and supported the profession and its practitioners lives on, embodied in words he shared with that HMS graduating class in 1871: "As long as you can keep alive the sacred flame of this early passion which first called you to embrace the medical profession, so long shall you be warmed, sustained, and upheld amid disappointment, unjust treatment or reverses." ■

*Eric G. Halvorson, MD, is an assistant professor of surgery in the Division of Plastic Surgery at the University of North Carolina at Chapel Hill.*



## Gold Rush

**O**N HIS HOME ANSWERING MACHINE, GRANVILLE COGGS '53 identifies himself first as a runner, then as a radiologist because, he says, "People are more impressed by my running."

At age 81, Coggs swims and sprints daily as part of his training for the 2006 Texas State Senior Games. Last year, he won the gold in the 400- and 1500-meter events in his age bracket.

"I park 400 meters from the main entrance to my office," Coggs says. "And I run that distance on my way into the building and on my way out. Today my time was 2:57. Yesterday it was 3:07."

Coggs began running competitively in his 70s, when he commuted 67 miles to work each day and found himself falling asleep at the wheel, which led to a diagnosis of narcolepsy. "I'd have to pull over for a nap," he says. "But my wife, Maud, who was a track star in her youth, suggested that if I were fitter maybe a nap wouldn't be necessary."

Maud's prescription worked. "She coached me," Coggs says. "We'd get up at three in the morning to run a mile in our neighborhood. That was in 1994. Within two years I could run a mile in under eight minutes, so a friend suggested I train for the National Senior Games."

In 1999, after placing 18th out of 18 in the 1500 meter at the national competition, Coggs reconsidered running that event. "I like gold medals," he says, "and I want to keep winning them." He concentrated instead on the 400 meter at the nationals and continues to run both events at state senior races, where gold medals are slipped around his neck year after year. This fall he'll run in the Texas State Senior Games again, and his confidence remains high. "I think I'll win at least one gold," he says. He pauses, then adds, "I'm not known for my modesty."

Coggs attributes his success on the track and his swift ascent in the field of radiology to lessons he learned from his parents—a father, the son of slaves, who started a boys' reformatory and orphan-

age and later became president of Arkansas Baptist College in Little Rock, and a mother who supported her children's education. "They expected me to do my best daily," he says. "It's what I still expect of myself."

While growing up in Pine Bluff, Arkansas, Coggs accepted the rules of segregation but never let them curb his ambitions. "In our family if you thought



**ON TRACK:** Eighty-one-year-old Granville Coggs takes first place in the 400-meter sprint at the Texas State Senior Games.

you could do something, you were encouraged," he says.

But the climate outside his parents' home could be harsh. "One day my second oldest brother was driving us to elementary school," he recalls, "and along the way we passed a truck driven by a white man. When we stopped at the school, the truck also pulled into the lot.

The driver got out and knocked my brother down. He said, 'Don't you ever pass a white man on the road again.'"

And though Coggs didn't struggle against what he couldn't change, he held steady to the track his parents and teachers opened for him. At his segregated elementary and high schools, his teachers urged him and his classmates to pursue their dreams at the same time they stressed the social limitations. "They told us we'd have to perform better than the rest of the world just to reap the same benefits," he says. "This is still true."

### Built for Speed

After high school, Coggs knew he wanted to fly. So, during World War II, he volunteered with the all-black combat unit of the U.S. Army Air Corps and became a Tuskegee Airman. He trained as an aerial gunner and in 1944 was commissioned as a bombardier, flying the B-25 Mitchell bomber. He fondly remembers the noisy but reliable drone of that twin engine and the challenge of learning to operate such a complex and potentially lethal machine. But he finished training too late to enter the war.

While training, he met his future wife and hatched the idea to follow one of his older brothers to medical school and become a flight surgeon. "Maud asked me how I was going to take care of her," Coggs says. "I needed to impress her, so I said I'd go to medical school. My plan worked, because she became my wife."

The GI Bill helped make that future a reality. "Without that support I wouldn't have considered Harvard," he says. "The tuition then was \$830 per year. The government paid \$500, and HMS awarded me a scholarship for the rest."

If his initial experience with Harvard Medical School was one of generosity of pocket, his next was generosity of spirit. "I feel a special loyalty to HMS," Coggs says, "because it was the first place I was treated as a person, rather than as a black person."



My first year I lived in a mixed dormitory. That integration would have been unthinkable in Arkansas or Nebraska."

Coggs mulled the issue of discrimination before coming north. He had known a doctor back home, George William Stanley Ish, who graduated from HMS in 1909. "When I was applying, University of Southern California officials said I'd be the first black person ever to attend their school," he says. "Though I like sunny weather, I thought, why go there, when Harvard has been graduating black doctors since at least 1909?" He later learned HMS has been graduating students of African descent since 1869 or even earlier.

After medical school Coggs rose quickly in the world of radiology. He worked with some of the first ultrasound machines while at Kaiser Foundation Hospital and the University of California at San Francisco (UCSF) in the 1960s and 1970s. While he was working as a full-time faculty member at UCSF, the Picker Corporation gave him a cardiac ultrasound machine. After his success in diagnosing mitral stenosis with it, the company gave Coggs one of its first abdominal ultrasound machines. "The images were so crude compared with the definitive pictures we have today," he says. "We were lucky if we could tell whether a baby was breech or vertex." He established the ultrasound division at UCSF in 1972.

Since then Coggs has invented two biopsy devices. He presented his latest—a low-cost, precision probe for percutaneous breast biopsies—to his peers in 1993. He believes it could be an asset for physicians working in developing countries. "I had hoped some company would want to market it," Coggs said. "There's a need for this sort of tool in the field."

### Built for Distance

Coggs still contributes to social security rather than drawing from it. At more



"I feel a special loyalty to HMS," Coggs says, "because it was the first place I was treated as a *person*, rather than as a black person."

than 15 years past the average retirement age, he works six days a week as a radiologist. Weekdays, he reads chest films and screening mammograms at the Brooke Army Medical Center in Fort Sam Houston, Texas, and on Saturdays he reviews screening mammograms at a private clinic. Last year he read more than 6,500 breast scans.

"Early detection can truly save lives," he says. "That's the attraction for me. I know I'm saving women's lives, and I know what I'm doing takes a skill not every radiologist has."

Coggs, nicknamed "Granny" at HMS but now called "Dude" by his grand daughters, plans to retire when he's 90. "I'm an optimist," he says, "and I'm a government employee. I'd have to do something really drastic for them to fire me."

When Coggs reflects on the circumstances that allowed him to push through social limitations, he thinks of his father

and the values he instilled. "As an educator he touched so many lives," he says. "People would come up to him many years later to thank him. As a radiologist, I know I'm touching people's lives, but it's anonymous. I'm proud of what I do, but I could never fill my father's shoes."

Perhaps he'll fill even bigger shoes—in 2001 Coggs was inducted into the Arkansas Black Hall of Fame—and he may have the time in which to do it. Coggs's father lived to age 105. "My father might have lived even longer," Coggs says, "if he had been an aerobic activity advocate like me. I feel confident about living to be 100 on genes alone. With my running and swimming, I should live to 110."

Plenty of time for more gold medals. ■

Janice O'Leary is assistant editor of the Harvard Medical Alumni Bulletin. To learn more about Granville Coggs, visit [www.coggs-granville.com](http://www.coggs-granville.com).

**GUIDING LIGHT:** As an emergency room physician, Luis Moreno often witnesses the brutality of gang violence. As a volunteer in laser medicine at an East Los Angeles clinic, though, Moreno helps break the chain of violence by removing tattoos that keep former gang members vulnerable to their perilous past.

PHOTO: WENDY JONES FLETCHER



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